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Five Principles of a Relational Pedagogy: Integrating Social, Individual, and Material Dimensions of Language Use

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Abstract: This article views technology broadly in terms of its greatest contribution: textual communication. It argues that well-grounded pedagogy should not just focus on what is 'new' in digitally-mediated literacies, but should also focus on what digitally-mediated practices share with all forms of literacy. The article discusses material, social, and individual dimensions of language and literacy, and proposes five pedagogical principles that underlie literacy technologies from the origins of writing to the digital era. These five principles are the basis for a 'relational pedagogy' that aims to foster in students an ability to reflect on meaning-making practices broadly, with particular emphasis on how materials and technologies interact with social worlds and individual creativity. Pedagogical implications of these principles are presented to encourage a goal of critical symbolic awareness in twenty-first century language education.

Keywords: Literacy, technology, mediation, relational pedagogy, reading, writing, critical thinking, strategies

1. Introduction

Technology's greatest contribution to education has been the development of writing and textual communication. Textual communication is the subset of communication that gets passed on, that provides wide access to human knowledge and creativity, that becomes representative of people and cultures, that is archived and becomes historical record. For centuries, textual communication has taken the form of handwritten or printed texts. However, with the advent of film and digital media that allow speech to be easily transmitted and recorded, the scope of textual communication has broadened considerably. In the current era of intense technological and social change, educators need to think carefully about how they approach the 'new literacies' born of digital technology. In this paper I will argue that rather than attempting to distinguish between 'new' and 'old' literacies, educators should focus on what they share. That is to say, rather than attempting to predict what skills today's students might need at some future time, educators should focus on fundamental principles that have always underlain language, literacy, and communication broadly—principles that potentially help people see connections across modes of expression and between past and present practices, giving them a critical

perspective that will prepare them to understand and shape whatever future practices develop with technologies that have yet to be invented.

This of course begs the question: how might one identify such principles? In Language, Literacy, and Technology (Kern, 2015) I approached the question by studying past periods of technological and social change (e.g., the origins of writing in the third millennium BCE, the development of paper at the dawn of the Common Era, movable type and the printing press starting in the thirteenth century, the telephone in the late nineteenth century, and the computer in the twentieth and twenty-first centuries). My premise was that technological artifacts always interact with what we communicate, how we communicate it, and, broadly, how we interpret meanings. What I found was that how we use language on the internet, for example, relates in interesting ways to earlier technologies of language, and that the material infrastructures of our communication technologies have always been tied to particular communicative cultures that shape how we read, how we write, how we construe and share knowledge, and ultimately how we understand ourselves in relation to the world. I also found that these communicative cultures are always informed by relationships among material, social, and individual factors. In this paper, then, I will attempt to demonstrate the importance of these material-social-individual relationships and present five principles of what I call a "relational pedagogy" that aims to foster a critical symbolic awareness in students.

I should begin by explaining what I mean by literacy. Textual communication always relies on some form of material technology. Literacy is the know-how people need to deal with that technological mediation—not only the know-how to produce texts, but also the know-how to interpret them. The language teaching profession typically uses the terms "reading skills" and "writing skills" to talk about these abilities. I prefer to use the term "literacy" because it is more holistic and less oriented toward discrete skills. Literacy allows for a more unified discussion of relationships between readers, writers, texts, culture, and language learning. Literacy frames reading and writing as complementary dimensions of textual communication—and so we are led to focus on their interrelatedness rather than on their separateness as distinct skills. Literacy also highlights the importance of socialization and social practices, which are often less visible when reading and writing are treated primarily as internal, cognitive processes. Finally, literacy also lends itself to today's digital technologies that afford the possibility of creating texts that are not just linguistic but that integrate images, graphic layout design, color, font variation, and sometimes audio and video. These technologies of textualization are not easily assimilated under the rubric of "writing," and they require interpretative skills that extend beyond those of "reading." Although texts have never been purely linguistic in nature, they have never had as wide a range of potential forms as they have today—which is one reason why people often talk about *literacies* in the plural.

2. Material, Social, and Individual Dimensions of Language and Literacy

Making meaning with texts involves three primary kinds of resources:

- Material resources, such as paper, writing instruments, computers, smartphones, recorders, film, cameras and video cameras.
- Social resources, such as language and other semiotic systems, social practices, norms, conventions, cultural values, and ideologies.
- Individual resources, such as creativity, imagination, intuition, emotion, aesthetic sensibility, along with circumstantial factors such as available time, energy, and motivation.

These various resources shape our language use and literacy practices. Historically, the surfaces on which we have written (e.g., clay, bark, stone, palm leaves, papyrus, paper) have influenced the shapes of the scripts we use (Kern, 2015), and the devices we use today (e.g., smartphones, computers) continue to affect how we read and produce texts.

Of course, social resources, and especially language, are absolutely key to all forms of communication. But it is important to remember as well that all of our uses of material resources are socially constructed, and social resources influence the ways that we use technologies. Consider, for example, how conventions for beginning and closing conversations on the telephone differ by language and culture, but also by age and gender. Shaffer and Clinton (2006) point out that people do not *use* new technology objects so much as they *interact with and through* them (p. 289). Moreover, today's globalized information networks have their own 'sense-making' agency in the form of relevancy filtering, which determines which advertisements appear on our screens, what results we get from search engines, and what recommendations we get from online stores. All this is made possible by a social contract that makes internet users into providers of internet content

If language and literacy practices are always socially embedded, they also involve personal choices, drawing on individual resources to create an original voice. A writer's tone, rhythm, style, rhetorical flair, irony, and wit all contribute to the individuality of his or her voice. One excellent example of multilingual language play that contributes to personal rapport is Eva Lam's (2009) study of an Instant Messaging exchange between Kaiyee, a Mandarin-speaking seventeen-year-old immigrant who lived in a mostly Cantonese-speaking community in the United States, and Dawei, a male schoolmate whose family was originally from Taishan. Kaiyee impresses Dawei by writing in Cantonese, using both standard and non-standard characters. But she also aligns herself more personally with Dawei by writing in Taishanese, using a combination of alphabetic pinyin and Chinese characters. They both sporadically use English and Romanized spellings to write about things relevant to their American school context, as well as emoticons. In Lam's study, participants' communication is not organized and enacted within the bounds of a single language, but rather in terms of the teenagers' strategic uses of linguistic resources from Mandarin, Cantonese, Taishanese, and English; and graphic resources in the form of traditional and simplified characters, pinyin, Roman script, emoticons, and punctuation.

In today's digital environments, even when people are communicating in just one language, writing technology often makes them operate *multi-symbolically*. Consider, for example, the exchange between A and B below:

A: wuz^
B: nmhu?

A's utterance uses two distinct strategies: a phonetic representation of a youth speech variety of English ("what's" with a deleted /t/ and a voiced /s/) and a graphic representation of an upward pointing arrow, cueing an association between this icon and the word *up*. There is no question mark, so we must infer that this is a question from our prior familiarity with the expression "what's up?" B's response also mixes strategies. The first three letters are an initialism representing the first letters of the written words "not much, how about..." (or possibly "not much here"), but the u is a rebus, *phonologically* representing the whole word "you." Again, the reader has to switch processing conventions mid-stream from graphic to phonological in order to correctly parse the utterance. This can make reading difficult initially, especially because the strategy switching points are never marked but must be discovered by trial and error. But if the reader has been socialized into reading utterances like nmhu on a recurring basis, he or she will recognize the whole string *as a unit*, without added cognitive load.

Although many people talk about digital writing like this as simplified or reduced language, it is actually, at least initially, a *complexification* in terms of processing, on the part of *both* the writer and the reader.

These kinds of multi-symbolic complexities, resulting from interactions among material, social, and individual factors, have been with us from the very earliest days of writing. In Mesopotamia, for example, early clay tablets were bookkeeping devices and did not have any discernable syntax. While these tablets might seem extremely ambiguous to modern readers, they were not entirely unlike today's pared-down text messages, tweets, and emoticons. To further complicate things, a cuneiform sign for one word could be used to represent other words with the same or similar sound. But a single sign could also represent semantically related words that nevertheless had vastly different sounds. As a result of this homophony and polyphony, the intended meaning of cuneiform signs could often only be determined by context.

This context effect is of course still important today. When you see 10 on a chalkboard, your default assumption may be to read it as "ten," but if you were in a computer science class and working in binary code, you would read it as "two." Does 1/4 indicate a fraction? Yes, but it can also be a date, and depending on the language/culture, it might designate January 4, or it might designate April 1. The word *coin* may make you think of money, but it makes a Frenchman think of a corner, or the quack of a duck. How do you pronounce the word *entrance*? That depends on whether it is a noun or a verb, and we can only know that from context. In order to interpret meaning, we need to know what the relevant symbolic system is and what contextual relationships are operating.

So, what history teaches us is that at a very fundamental level, literacy is still the same as it has always been. It is about designing meaning from graphic signs with the resources and constraints of a particular medium and culture. It requires understanding relationships among forms, contexts, and the meanings they mediate. It is about expressing identity and affiliation through writing and sharing texts. And it is about becoming

socialized (and socializing others) into particular cultural practices related to texts—practices that both require and confer social power.

Of course, against the backdrop of these fundamental characteristics, the specifics of how people do things with texts have always varied widely and always will. Both across and within different cultures, people read, write, analyze, and think for myriad purposes, in myriad contexts, with different tools, and in different mediums.

In terms of preparing our students for the future, and whatever new technologies may be developed, it is hopeless to speculate about what kinds of future skills will be needed. Our best hope, in my opinion, is to expose learners to as broad a range of purposes, contexts, modes, and mediums of language use as we can—while focusing on fundamental principles that underlay language, literacy, and communication—to help learners see relationships across modes of expression and to foster a critical perspective that will prepare them to understand and shape whatever future practices develop with technologies that have yet to be invented.

3. The Five Principles of a Relational Pedagogy

The balance of the paper will describe the five principles I developed in *Language*, *Literacy*, *and Technology* and present some ideas for how they might be implemented in language teaching.

Principle 1. Meanings are situated and relational, not autonomous.

It is a basic fact that understanding language always involves contexts of interpretation. No text can signify in the absence of some context of interpretation. We saw this above in the examples of how context influences our interpretation of signs. There is nothing new about this. We have always known that signs mean different things in different cultures, for example. But today, the Internet brings multiple cultures into what we experience as *one place*, with participants who are often from different cultures, and we generally have fewer contextual clues to guide us in our interpretation. In fact, the Internet overlays *its own* culture on top of all the cultures represented by people interacting with one another online.

To give a trivial but interesting example, the internet trend of abbreviating words with numbers (like 18r in English) is ubiquitous across languages. But the systems underlying those abbreviations are multiple and are never explicitly marked, making interpretation difficult unless one can be socialized by practitioners. 143 in English designates "I love you" (based on the number of letters in each word). In Chinese, 88 is ba ba (which sounds similar to English bye bye, meaning two separate systems come into play) but in German, 88 is a neo-Nazi symbol (H is the eighth letter of the alphabet, forming "HH" or Heil Hitler). In Japanese, 39 is pronounced "sankyuu" (just like 3Q in Chinese); but in Dari and Pashto, 39 is a swear word. 555 designates laughter in Thai (ha ha ha), but in Chinese, it indicates crying (wu wu wu). Then, in Korean as well as some other Asian languages, OTL or Orz operates within an iconic system, providing the viewer with a "side view" of a stick figure kneeling out of disappointment or bowing to show deference. OZ is

the simplified version. The basic principle here is that you have to know the relevant system behind the signs. The signs don't have intrinsic meanings in and of themselves. From this perspective, we need to think of computer-mediated exchanges as what Mary Louise Pratt (1991) calls contact zones: "social spaces where cultures meet, clash, and grapple with each other" (p. 34).

A less arcane example is the fact that words and phrases often activate mental representations of particular contexts when we hear or read them. Consider the contexts of situation you imagine when you hear utterances like "Catch a tiger by the toe," or "All hands on deck!" or "This one's on me." When these contexts are not understood, problems can arise both at the level of interpretation (e.g., "This one's on me" interpreted as "It's my fault") and at the level of production (e.g., B responding "What a nuisance" when A says "Terry's father died") (Richards, 1990, p. 75). Strategic pedagogy that focuses on guessing word meaning from context is important, but it addresses only one side of the issue—teachers also need to recognize the importance of the *inter*textual resonances of texts, developing a sense (over time) of the contexts associated with certain words, expressions, genres, styles and so forth.

One pedagogical goal for applying Principle 1 is to develop learners' awareness of how changes in framing and context affect meaning. One tool we've developed at Berkeley that is helpful in this regard is the Berkeley Language Center's Library of Foreign Language Film Clips (Lumière), which holds 4,200 films in 54 languages, with 19,000 clips tagged for vocabulary, grammatical structures, speech acts, and cultural notions. This allow instructors to search for a particular speech function (e.g., apologizing) and get multiple examples involving different situations, different historical periods, and different characters from different age groups, social classes, and regions. Instructors can then ask students to analyze certain features as they view the clips. Information about this database (which is available to other institutions) can be found at blevideoclips.berkeley.edu.

Another way of approaching this pedagogical goal is to ask questions that show different dimensions of "meaning." That is, distinguishing among referential meaning (i.e., what do the words refer to, according to their framing?), metaphorical meaning (i.e., are words being used literally or metaphorically? What is the referent being compared to, and what is the effect of that comparison?), structural meaning (i.e., how does the particular ordering of words and clauses contribute to your interpretation? how might changing the order affect meaning?), intertextual meaning (i.e., how do elements of this text echo elements of other texts you have encountered? What is the effect of that echo?), social meaning (i.e., what kind of relationship do the words of the text establish between the writer and reader? or between characters in the text? what conventional meanings are attached to the genre or form of the text?), personal meaning (i.e., what feelings do the words of the text evoke in you? What personal experiences are called to mind?), symbolic meaning (i.e., beyond metaphors, are textual elements used in allegorical or emblematic ways? Can the text itself be considered a symbolic act?), and ideological meaning (i.e., whose interests are served by the text? are meanings consistent with or do they challenge dominant discourses?). It is important for students to realize that these levels or frames of meaning operate in many different kinds of texts, and not just literary texts.

Principle 2. Language, literacy, and communication rely on both convention and invention.

When we produce an utterance or a text we are creating something new and unique in relation to a particular context, and yet to do so we must rely on resources and practices that are well established. In other words, we are recycling old materials in fresh ways, establishing new relationships among stock elements. This means that all our acts of communication are social and historical as well as individual. That is, they involve both convention and invention.

Emergent grammar is one example of this principle. An utterance like "my red new car" is typically considered ungrammatical, with English grammar telling us that "my new red car" is correct. But suppose I have recently bought *two* new cars, one red and one yellow. Now when I tell you about the red one, as opposed to the yellow one, it is suddenly okay to say "my red new car." Here the structure has been adapted to fit the particular needs of people in a specific communicative situation. Paul Hopper (1998) explains that grammar is not immutably fixed in a speaker's head, but is negotiated in particular situations. Language forms are derived from prior practice (sedimented in spoken and written texts) but rearranged in sometimes novel ways.

We see convention interacting with invention all the time on the internet. A recent article in Wired Magazine (Anderson, 2018) describes how feminists in China have used emoji to outwit government censors of sexual harassment #MeToo forums. Using juxtaposed emoji of a bowl of rice and a bunny rabbit (spoken aloud as "mi tu" in Mandarin), they have succeeded in avoiding censorship.

One pedagogical goal for applying Principle 2, then, is to show the importance of social conventions in discourse, but also show how people adapt conventions and resources for individual and collective purposes. Getting students to reflect on conventions can be approached in terms of both process and product. Learners can think about how social conventions develop in response to material limitations (e.g., the keys of a cell phone or limits on characters in Twitter) and how in their own experience they have "worked around the system" when they have encountered obstacles in accomplishing a communicative goal. They can also do stylistic analyses of others' texts in terms of the graphological, phonological, lexical, syntactic, semantic, and pragmatic features, paying special attention to the aesthetic or persuasive *effects* of the writers' choices on their interpretations of those texts (see Fowler, 1986; Simpson, 2014; Widdowson, 1992 for more on stylistics in language learning).

A second pedagogical goal for Principle 2 is to make learners aware of their own agency in choosing and configuring the semiotic resources they use. Students can record and transcribe segments of their own or others' face-to-face communication and compare the features they find with those of various forms of online communication (emails, text messages, chats, videoconferences, etc.), reflecting on how the forms chosen relate to the material and social dimensions of the situation. This kind of activity dovetails with the educational goals of the third principle.

Principle 3. The medium matters.

Writing means different things in different mediums. For example, emails, text messages, and handwritten letters are all forms of written correspondence but they are produced and read differently from one another. Similarly, digital storytelling involves a different constellation of knowledge, skills, and practices than composing a prose narrative. Consequently, people can be quite literate in certain mediums but not in others, and no one is literate in all possible mediums.

The pedagogical goals proposed for Principle 3 center on developing learners' ability to reflect on how communication is shaped at least partly by its material context. Teachers can ask how performing some act (such as persuading, apologizing, inviting, breaking up) would be different in one medium versus another, how it would be influenced by the affordances of each medium. For example, a phone call allows the speaker to gauge an interlocutor's immediate reaction to what is said; a letter doesn't, but it can be drafted and rewritten to help the writer find just the right tone. Comparing book and film mediums is another way to address Principle 3. Students can analyze a scene of a novel that has been made into a film, and compare the textual and filmic scenes feature by feature. Whose point of view is expressed? How is it expressed? Does it change during the scene? If so, how is the shift marked? How does the director express in film what the author expresses in an interior monologue written in free indirect discourse? Or students can even make their own filmic transformations of written texts (Porter, 2009).

Another dimension of Principle 3 is to analyze mediums critically for ideological or commercial underpinnings. The goal here is to get students thinking about how writing systems and other technologies of literacy have histories and ideologies embedded in them. For example, how simplified characters were developed in the People's Republic of China to facilitate the spread of literacy among the masses, but traditional characters were retained by Taiwan, Hong Kong, and Macau—and how learners of Chinese are making a political choice when they learn to write in one system versus another; how speakers of Hindi/Urdu cannot avoid revealing their religious affiliation when writing, since the Nastaliq and Devanagari scripts mark Muslims and Hindus respectively; how Arabic and Chinese scripts present the appearance of linguistic unity whereas spoken varieties are often mutually unintelligible; or how most formerly colonized peoples of the world are permanently marked as such by using the writing system (if not the language) of their colonizers. With respect to digital technology, how spelling/grammar checkers militate against anything unusual (e.g., spelling to imitate speech, incorporating foreign words, using neologisms), and how the autocorrect feature changes non-normative forms often without the writer's awareness; how PowerPoint's default settings may influence how we organize information and how much information we organize; how Facebook profiles are constrained by the categories of information authorized by Facebook. Teachers should emphasize students' critical reflection about the Internet, which collects their online habits, their search queries, their purchases, the music they listen to, the information they put on Facebook and other social media sites—all of which is then used by companies to personalize the information and advertisements they see on their screens.

Principle 4. Texts and communication are always multimodal.

We naturally communicate multi-modally. When we talk, the sounds, rhythms, and pacing of our speech play an important role in constructing meaning. When we write, our handwriting, the layout of our text, the font, the physical surface on which we have written, and how we mark that surface all contribute something to the meaning. Consider this haiku by Anita Virgil (2004), which highlights the iconicity of the letter i:

Today we are faced with more choices than ever about how to communicate. What should we express through pictures or video? What should be expressed in speech? What in writing? And what will it 'say' to express it in one medium versus another? As we think about modes of expression like music, theater, dance, and visual art, what are the specific dimensions of each that contribute to the construction of meaning?

One pedagogical goal for Principle 4 is to get students to reflect on how linguistic and non-linguistic elements interact in texts, as well as in face-to-face communication. Starting with writing, have students interpret the effects of typefaces (styles and sizes) and page layout design in a variety of text types. How are visuals or colors used? How do all these visual elements complement or detract from the verbal message? In face-to-face communication, have learners analyze recorded interactions to see how gesture, body language, facial expressions, tone of voice, and other nonlinguistic features affect the participants' co-construction of meaning.

Another goal is to get students to develop rhetorical skills in a range of modes. For example, have students analyze how language interacts with music, sound, and visual design in theater, film, and other multimodal forms of expression. Have them listen to the musicality of Martin Luther King's delivery of his "I Have a Dream" speech and discuss what effect that musicality has on their reception of the speech as compared to reading the script of the speech silently or listening to someone else reading it aloud.

A third goal is to develop learners' awareness of codes and programming in digital multimodal environments. Students should be exposed to the human actions that underlie the surface of what they see and hear on digital devices—and have an opportunity to discuss the values implicit in programming decisions. They should also be required to think about the ethical responsibilities that go along with that power and how the design of an interface may encourage certain kinds of behavior, both positive and negative (for example, an interface based on user anonymity could promote honesty or it could foster flaming or cyberbullying).

Principle 5. Language, technologies, and texts mediate between the social and the individual; between ourselves and real and imagined worlds.

Finally, the fifth principle frames language, technologies, and texts as kinds of filters through which we interact with the world. Reading allows us to extend our knowledge far beyond what we experience directly in the world. The internet has been

tremendously beneficial in that we now have access to information that was previously impossible or difficult to obtain, making our "world" much larger. But at the same time, personalization algorithms on the internet give rise to what Pariser (2011) calls "identity loops, in which what the code knows about you constructs your media environment, and your media environment helps to shape your future preferences" (p. 233). Relevancy filtering effectively *narrows* one's exposure to new information, as echoed by Manjoo (2016): "when confronted with diverse information choices, ...we gorge on information that confirms our ideas, and we shun what does not" (p. B1). In this way, technologies have the potential to negatively shape our behavior and our thinking when we interact with them often.

Just as language, technology, and texts mediate 'outside in' between the world and ourselves, they also mediate 'inside out' between ourselves and the world around us. Sometimes this is overt and structural (as in the case of a Facebook profile). Other times it is more subtle, as in lexical and grammatical choices, handwriting style, language play, pseudonym choice, emoticons, and other affect-laden visual dimensions of writing. These examples remind us that affective and aesthetic dimensions of written forms play an important role in making meaning.

One pedagogical goal associated with Principle 5 has to do with developing learners' awareness of mediation and its role in learning. This can be approached by getting students to understand the affordances of different kinds of mediation in their own learning. To do this, they can reflect on how different learning mediums (e.g., books, lectures, online forums) position learners differently, how they embed different ideas about how power circulates among participants, how jointly (or not) knowledge is constructed, how much (or how little) dialogue can occur, and how controlled or free-flowing the interaction is. Books afford slow, careful reading and critical reflection, whereas lectures allow listeners to hear the speaker's voice, to witness a performance, and to interact directly with the speaker. Online forums afford highly interactive discussion of a topic in a structurally flat power hierarchy, and they are "textual" so interactions can be saved, re-read, and analyzed. With each learning medium, learners are encouraged to think and act in certain ways.

A second pedagogical goal related to Principle 5 is to develop learners' awareness of how people create social identities through their use of language and technologies. They can consider how people's speech patterns, accent, diction, pace and rhythm, all contribute to an identity image they project when they talk. In writing, students can consider how handwriting and expressive style are interpreted by others as revealing something about themselves. To do this, students can pass around samples of their handwriting anonymously and comment on what they infer about the writer's personality from the size, style, or color of the writing itself. The point is not to show that there is uniform consensus about what a particular style of handwriting reveals about the writer, but rather to demonstrate that handwriting style is *susceptible to interpretation*. Students can then do research on cultures where employers traditionally ask for handwritten, rather than typewritten, cover letters.

A third pedagogical goal tied to Principle 5 is to evaluate the authenticity and validity of information. In today's media environment, fake documents can be made to

look authentic, and the ability to critically evaluate the source and quality of information is particularly important. Leu et al. (2007) reported on seventh grade readers' ability to critically evaluate information online by creating a spoof website, *Save the Pacific Northwest Tree Octopus*, which gave information about the tree octopus with the support of photos, graphics, and links to external resources. They found that even the most proficient young readers could be fooled about the reliability of information they found on the Internet, even when they were well aware of how unreliable online information can be. In this case, the majority of students not only believed the fabricated information, but many also persisted in their belief that the tree octopus existed, even after researchers explained that the information had been made up. Students can be given practice in discriminating between authentic and illegitimate materials by focusing on subtle details of language, layout, and provenance of the text, and they might even try designing their own false texts to see if they can fool their classmates, discussing the results afterwards.

Another, even more subtle kind of authenticity that is harder to even be aware of, much less reflect critically on, is that of cultural materials typically found in textbooks. Vinall (2012) argues that a central problem in foreign language teaching is dealing with historical events, which are too often presented in textbooks as lists of facts attached to a specific time and place, without critical reflection about how those seemingly neutral facts have been constructed, how they have been transformed over time, and what feelings they evoke in people. Vinall takes as her example the history of the Conquest of the Americas as represented in an intermediate-level Spanish textbook. She proposes a three-phase approach in which students reflect critically on discourse, explore issues of power, and reframe the discourse world of the textbook.

Finally, Principle 5 acknowledges the importance of imagined worlds, suggesting a pedagogical goal tied to aesthetic dimensions of communication. Students' attention can be focused on their visceral responses to texts based on material considerations (for example, the smell and feel of a leather binding, the weight and texture of the paper, the feel and flow of a pen, the brightness and resolution of a screen). Roland Barthes (1977) posited the phrase "the grain of the voice" to describe the pleasure or displeasure that one gets just from the sound of a performer's voice without taking into account the words uttered or the notes sung. His point was that raw sensory impressions cannot be separated from the ultimate meaning we derive from producing or interpreting a text. Roman Jakobson (1960) made a somewhat similar point with respect to form in language when he described the poetic function of language. Students can be asked to attend to sounds, sound patterns, visual forms, intonation, and language play from an aesthetic standpoint. As Cook (2000) has argued, language use is not always rational and transactional, and language play allows learners to see how contexts of interaction motivate and shape language forms—and how language forms themselves can sometimes motivate and shape interaction.

The appendix recapitulates these five principles of a relational pedagogy with sets of broad questions to guide teachers' planning. It is important to recognize that these principles and questions are heuristic in nature, designed to get teachers and students thinking, discussing, and learning together. They are not intended to be definitive or programmatic, but rather as starting points for teachers and learners to explore and extend in their local contexts.

4. Conclusion

Technology plays an important role in the educational goals outlined above. As Dourish and Bell (2011) point out, "The technologically mediated world does not stand apart from the physical one within which it is embedded; rather, it provides a new set of ways for that physical world to be understood and appropriated" (p. 132). It is in the spirit of fostering reflection on relationships between physical worlds, cultural worlds, and technologically mediated worlds that I have proposed the five principles outlined in this paper.

Whereas language teaching tends to emphasize the "thingness" of language and literacy by focusing on vocabulary, grammar rules, styles and genres as so many *items*, or static facts, what I'm calling a relational pedagogy attempts to draw learners' attention to the crucial "in between" relationships that bring those items to life. It shifts emphasis from unvarying *a priori* rules to appreciation of how mediums, cultural practices, situational circumstances, and individual creativity interact when people make meaning—and how those interactions are reflected in language forms such as orthography, grammar, and genres.

In other words, a relational pedagogy aims to foster an ability to reflect on meaning-making practices broadly, but with particular emphasis on how materials and technologies interact with social worlds and individual creativity in those practices. A relational pedagogy deals with fundamentals, teaching language and literacy in the broadest sense. It aims for communicative competence but also for critical competence and symbolic competence. It aims to get students to see that language is not just a normative system, but also an adaptive practice that interacts with its cultural and technological mediations.

By focusing on the fundamental dimensions of meaning-making, by showing learners how material, social, and individual factors interact (and do so differently in different contexts of communication, across different situations of technological mediation, and across different moments in time), we stand the best chance of preparing students for the future while simultaneously connecting them to the past—and, crucially, helping them to see relations between the two.

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Appendix

Heuristic Questions for the Five Principles (Kern, 2015)

Principle 1: Meanings are situated and relational

- What are the contexts relevant to the interpretation of this text (e.g., material, situational, social, historical, ideological etc.)? How might the text and context inform one another?
- How does this text allude to, contest, build on other texts, even in other mediums?

Principle 2: Language, literacy, and communication rely on both convention and invention

• How have conventional semiotic resources been appropriated, adapted, or recontextualized for individual or collective purposes in this text? To what effect?

Principle 3: The medium matters

- How does the text's medium affect language *form*? Are words written/spoken differently? Is syntax modified? Is text length affected? Are cohesion and coherence devices the same and if so, are they used in the same ways?
- How do such differences affect listening, reading and writing?
- How could the meanings expressed in this medium be expressed/re-mediated in a different medium? (to achieve a similar or a different effect)

Principle 4: Texts are multimodal

- How do linguistic elements interact with nonlinguistic textual design elements to produce particular meanings?
- How are time (e.g., rhythm, timing) and space (e.g., visual layout, movement) used to create particular meanings or effects?
- What communicative acts (e.g., establishing rapport, sharing ideas, persuading, negotiating, expressing feelings) are facilitated or rendered more difficult by the medium?
- What are the social consequences (in terms of who is included or excluded, how
 participant interactions might be reconfigured, how cultural processes and
 products might be affected) of using one medium and technology versus another?

Principle 5: Language, technologies, and texts mediate

- How does our use of language, technologies, and texts affect how we think about, produce, and use knowledge?
- How are traces of the communicator's identity or persona signified?
- How do aesthetic qualities contribute to meaning?
- Whose interests are at stake, and how are those interests identifiable? Are beliefs, attitudes, myths, and assumptions marked as such or can they be mistaken for facts?