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Media Ideologies and the Politics of Digital Literacy: Discourses on Technology and Media in a Small School District in the U.S. Heartland

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Media Ideologies and the Politics of Digital Literacy: Discourses on Technology and Media in a
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Abstract

This dissertation uses a discourse studies approach to investigate key communicative processes by which digital technology is given situated meanings within the institution of public education, including at the level of official discourse, administrative texts, and the spoken discourse of professional educators. The discursive processes under analysis, referred to here as "institutional media ideologies," arguably function as discursive frameworks which, akin to tactics of management in organizations, constrain the further production of discourse in a particular professional domain, including through the codification of contextualization practices, participant roles, and the social meanings of practices implicating the use of digital technology. Furthermore, these institutional media ideologies, being the result of powerful social and political agents, arguably have social and political consequences in so far as individuals who do not share the dominant, complex constellation of communicative practices may be precluded from partaking of the social goods provided by that institution. Critical attention to these institutional processes of meaning-making for technology is needed to gauge the political and social stakes of "banal" discourse about technology and the "convenient myths" such discourse can perpetuate about technological change. In the case of public education, institutional media ideologies affect the social and political valence of digital literacies by constructing the ideological backdrop by which these practices are given meaning by educators. Thereby, these institutional media ideologies influence the lived realities of individuals—not only individuals in particular professional circles, but also those that they serve.

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To EDB: thanks for the many hours spent looking tirelessly over drafts of this project; working remotely didn't make it any easier, so thanks for sticking with me.

Dedication

To my boogers, Ev and Bogey, whose voices formed the backdrop to the drafting, scrapping, and revising of this project: thanks for reminding me why I'm really doing any of this.

And to my wife, Rachel—I love you like a circle. You sure you want to read the whole thing?

Even if this creed rings hollow for too many of my moments, may it be true in this one:

Solo Deo Gloria

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CHAPTER 1: UNDERSTANDING MEDIA IDEOLOGIES

PART I: INTRODUCTION

Media Ideologies: Attitudes and beliefs about technology and media

   Public and scholarly beliefs about media technology

This dissertation contributes to a growing body of scholarship that investigates discourses about technology—their formation, their malleability, their values, and the cultural and social stakes of these discourses. By focusing on intersections between nationally distributed texts, texts produced by a school district, and the spoken discourse of teachers in this same district, this study reveals some of the ways that "commonsensical" knowledge about media and technology is formed by means of discourse, including how institutions strategically write, speak, and conceive of technology in keeping with their organizational and communicative aims as well as the values, perceptions and demands of various stakeholders.

In order to speak precisely about "technology" (a term that is itself usually used as short-hand for "digital" or "multi-media" technologies), it must first be acknowledged that not only is the term ambiguous, but that the sorting out of its ambiguities establishes a discursive arena where different ideologies vie for dominance. However much "technology" is talked about in public contexts as though it is monolithic and straightforward, its meanings are the farthest thing from "commonsense." Indeed, the meanings, definitions, and practices associated with technology are socially-constructed (Collins & Blot, 2002), forming at an historical moment through such means and discourses as are available, which means that views of technology inescapably implicate views of social life, politics, and culture. Roderick (2016) writes that "technology is […] a material confluence of knowledges, practices, beliefs, and expectations that

are unevenly distributed among social actors"; technology, then, does not develop independently of human understandings, but "is always already cultural and culture is always already technological" (p. 1). Views of technology, then, are not merely inert "opinions," for to speak about technology is to engage with a myriad of other social issues as well, implicating views of social life, whether political or cultural.

Additionally, as normative ideas about technology appear more frequently, they become more powerful; in short, they are reiterated and reinforced through discursive means, for discourse, as Gee (2014) writes, does not merely reflect our social realities, but also partially creates them, given that the social significance of an activity or object is negotiated within the realm of discourse (Domínguez Barajas, 2010). Indeed, technology, as a part of social life, accrues its meaning largely through discourse. Common ways of speaking about technology should not be taken merely as a symptom of widespread attitudes or the resurrection of "common sense," but also as a discursive process constituting the ongoing creation of beliefs about technology. Roderick (2016) writes that "technolculture" (a term coined by Penley and Ross [1991] to refer to the relationships expressed between culture and technology) is a site of struggle for resources as well as for meanings. It is important to note, however, that though people's understandings of their respective social worlds are, to a large extent, dependent on the ways they have of talking about them, they are not fully in control of what they can and can't say on one or another topic, either; there are specific, socially-constructed boundaries constraining what kind of talk is understandable and "sensible" with regard to technology. Any seemingly coherent understanding of technology, however "standard" a view it may seem, stands among myriad, "diverse digital worlds" and digital futures, as Berendegt (2012) refers to them. Beliefs about technology, in turn, have consequences well beyond the realm of public debate, even going

so far as to influence discussions of social equity—and nowhere are the implications of this technological divide more visible than in schooling.

In the public realm, those who are in possession of dominant views of technology may well be unaware of their views; beliefs about technology are so engrained in much of social life that its subtle restructurings of everyday life is invisible—something Langdon Winner (1986), a political theorist whose early work focuses on the implications of technical change, has called "technological somnambulism" (p. 10)—and once-valuable literacy skills are becoming quickly obsolete as economic competition drives change (Brandt, 2001). Researchers within Science and Technology Studies (STS) have long theorized about the interaction of technological change with the structure of societies (Goddard, 2014), often taking up the question of technology writ large across communities. In this dissertation, however, I do seek to address the inherent meanings, essence, or uses of technology nor its meanings for entire societies, and I avoid the generalizations that are wont in even the most careful considerations of technology (embedded as it is within purported "commonsense" understandings of everyday life). Along with such writers as Bijker, who approach technology in society from a constructivist perspective, I eschew deterministic views of technology by assuming that technology does not only affect societies, but that societies also influence technology; that is, the impacts and social valences of technological objects are not determined, but are in fact changed by their environments, cultures, and times in which they are used, not only in terms of their uses but also their designs. Indeed, as Bijker (1995) so succinctly writes, "machines 'work' because they have been accepted by relevant social groups," those who are interpolated by the design or use of an artifact (p. 270). Another underlying assumption of this study is the existence of a multiplicity of meanings associated with technology, as corroborated in literature on digital ethnography (see, especially, Pink *et al.,*

2016). Therefore, regarding the intersections of technology and discourse, the guiding question of this dissertation is not "what meanings does technology have in this research site" as it might be in a digital ethnography, but is rather "how does technology **become** meaningful through discourse in this research site?"

In summary: within a social-constructivist theoretical framework for interpreting social life, there is no "true religion" of technology and no chance of achieving a pure objectivity regarding its significance--there are only more-influential and less-influential discourses on technology. The rhetorical effects of these discourses, however, are frequently hidden, implicating tacit assumptions about the uses to which technology should be put and whom it should serve. As Winner (1986) writes, our conceptions of efficiency—and indeed of human behavior itself—are having to adjust themselves to accommodate technological changes that have been integrated into daily life. He writes that wherever human beings are taken as pieces of a larger machine, what follows is "a reconstruction of social roles and relationships" (p. 11). Indeed, it is potentially reductive to claim to study the "daily experiences" of people with technology without recourse to the variability and changeability of these experiences, as apparent in the constituting effects of discourse on the meanings of technology. Studies focusing on the production of various meanings of technology, then, have implications for studies of work, of schooling, and of the various and emergent competencies that emerge and then die off in these various domains of life (Brandt, 2001). It is especially important, then, that technology as an object of discourse be well-understood in terms of its constituting effects. Indeed, Winner remarks that "the things we call 'technologies' are ways of building order in our world" (p. 28). The ways technology is talked about has implications far beyond the moment and situation in which it spoken about; there is a pressing need in all walks of life, and especially in educational

contexts, for a more diverse, more problematized understanding of what someone is doing when they talk about technology—especially when they contribute to (or challenge) "commonsense" ideas about it, for by negotiating the meanings of technology, a speaker is also negotiating, to varying degrees, the ordering of social life.

Technology in educational settings: contradictions, attitudes, and discourse

Having established that views of technology are socially-constructed and implicate situated views of social life, I consider some of the ways that these views may form and according to what influences. Even though views of technology are largely dependent on culture, time, and place, they do not form passively but are instead the subject of intense instruction, incentivization, and rhetoric. Public views of technology are of special concern not only to private companies, but also governmental agencies, and as such are not reproduced independently of political aims; they are, therefore, needful subjects of critical investigation.

In this dissertation, I am interested both in the discursive processes by which technology is given situated meanings and the social stakes of those processes. By "situated," I refer to meanings that are not constant across time and space but rather rely on particular contexts to create meanings particular to constellations of contexts, events, and participants. (Consider, for example, the sentence "sit." If spoken in the United States by a boss to their subordinate in the former's office in a low, even tone, this may be the signal of the beginning of a potentially serious meeting; if spoken by an adult to an acquaintance in the former's living room with an emphatic tone, it may be taken as a signal of amicability and a prelude to the trappings of hospitality.) This means that, as the context surrounding a text's production and reception changes, so does its potential meanings, even to the degree that a single text may be understood in vastly different ways. Texts that describe technology use are no exception. Whereas, for

example, technological innovation in a publicly-traded company may simply be a matter of logistical and economic expediency, beliefs and opinions about technology—and the texts that support them—take on vastly different forms as well as consequences in public institutions, where a visible commitment to the public good is requisite to their functioning and purpose. For this dissertation, I focus my attention on the discourse about technology produced from within one such public institution: public education.

In the past few decades, there has been a slew of research on educational technology, but it largely centers on the technical and logistical aspects of technology integration and use rather than its political, cultural, and social implications. Technology, among myriad other applications is presented as a learning goal in itself (i.e., familiarization with digital tech, "digital literacy"), a matter of pedagogy (e.g., Information and Communication Technology [ICT] in classrooms), and an administrative tool (i.e., to communicate more effectively with caregivers or to aid in assessment). Each of these separate areas of technology use also create codified meanings for it, but, in each of these emphases, the attitudes of stakeholders are frequently addressed as a key variable in the successful integration of the respective technologies. In the case of ICT, technology is integrated into pedagogy as a vehicle for instructional content, assessment, and administration (Bodén, 2016; Szente, Massey, & Hoot, 2005), but with a distinct emphasis on obstacles to this integration, especially the attitudes or skills of teachers (Agbo, 2015; Blau, & Shamir-Inbal, 2016, 2017; Ekanayake & Wishart, 2015) and the culture of the school (Blau & Presser, 2013; Dexter & Richardson, 2019, 2020). There is similar weight given to obstacles to integration in studies of school-to-home communication as well, coordination between schools and caregivers being important in the success of a student. In this particular strand of scholarship, media technologies such as social media and email are taken as means to inform,

persuade, and educate caregivers, with writers emphasizing rhetorical elements (Porterfield, 2014) and the attitudes of student caregivers (Bordalba, & Bochaca, 2019; Brown & Grinter, 2014; Ho, Hung, & Chen, 2013). Overall, successful integration of technology into public schooling is understood as a multifaceted process which involves not only securing funding and updating infrastructure, but also training individuals in particular technologies and software and changing the attitudes of recalcitrant stakeholders, whether teachers or caregivers, so as to be more amenable to the use of digital tools. Technology integration, in other words, is as much a rhetorical project as a technical project.

However much the needs of students are emphasized whenever public education is discussed in political rhetoric and public media, it is not as straightforward as it may seem. Public education in the United States is a discursive and political battleground, with political interests seeking influence over curriculum and corporate interests vying for government contracts. (At the time of this research, for example, there are, regrettably, conservative legislations in multiple states targeting anti-racist orientations to the teaching of history in public schools, describing them using such labels as "divisive" and "anti-American" as justifications for a blanket ban.) Policy pertaining to public education, whether in curriculum or allocation of amenities, can easily impact entire populations across generations by providing or restricting access to social goods that these institutions provide, including knowledge about technology produced by public schools.

As with any study of the meanings of technical systems, the political ramifications of its introduction (in terms of the system itself and the manner of its integration) are themselves distributed and often unforeseeable (Winner, 1986), but they may also represent the tacit imposition of dominant values. Whose interests, it may be asked, are being served by technical

change in public schools, and how much transparency is present with regard to its goals and effects? How is the meaning of technology created and negotiated, and who is allowed to create this meaning? For example, technological innovations in public schools, while enabling faster assessment by teachers and remote access by students, also extend the ability of governmental stakeholders to surveil students and teachers by means of student data, such that teaching to a common standard (i.e., standardized tests) may be prioritized over individual attention-- prompted to increase testing scores by funding opportunities and initiatives like "No Child Left Behind," schools are increasingly assessed in terms of "performance."

In short, I take for granted, in this study, that no view of technology is ideologically innocent. An ongoing emphasis on the logistics of technological innovation in educational research as well as official discourse (see chapter 2 for analysis of official reports on educational technology by the USDE) has largely sidelined discussions of the values and beliefs that underlie the manner of implementation and the ways that normative knowledge about technology use is created in public schooling. As important as public education is to the democratic vision of open societies, I believe there is an urgent need, perhaps more so than in any other social arena, to critically evaluate the beliefs and attitudes toward technology that are produced and standardized in public schools and the agencies and governing bodies that support them, given that the knowledge about digital technology produced therefrom is not only the most widespread but also has the largest impact on the communities and individuals living in the United States.

The Research Site

As I investigate the role of institutional texts in the creation and institutionalization of beliefs about technology in public education, I have focused my attention primarily on the

communicative practices of a school district, including corporately-produced texts and interviews with teachers in that same district.

The school district in question is situated in the heartland of the United States; it is the largest in its home state and is also highly diverse, its largest demographic of students being Hispanic as well as having a sizeable population of Pacific Islanders. The district also encompasses economically-challenged communities, with 72.02% of enrolled students qualifying for "free" or "reduced" lunch. The district is also highly diverse with regard to languages, with Spanish and Micronesian translations of school documents widely available on social media as well as on school websites. Of a total of 34,729 households in the district, 33.8% of students reported "speaking English very well," and 11.5% as speaking English "less than very well" (nces.ed.gov). As of the time of this research, only 70% of households are reported to have a broadband connection. Given this unique makeup, the district's shift in fall 2020 to mixed instruction (remote, hybrid, and in-person instruction) in response to the COVID-19 pandemic presented a particularly interesting conundrum: in a highly-diverse, relatively low-income school district, remote learning is not at all straightforward, and achievement gaps take on an entirely new dimension. A report (see Besecker & Thomas, 2020) originating out of a Los Angeles school district during the summer of 2020 discovered that prolonged engagement with online learning was lower among minorities, low-income students, English-Language-Learners (ELL), students with a disability, students who were homeless, or students who were in foster care. Sayer and Braun (2020) report similar findings on a national scale, writing that multilingual (and especially immigrant) families were less able to transition to remote learning, also noting that, in general, there was little accommodation to ELL students and families across the United States.

As these reports suggest, it is no small task that the school district faces during the ongoing (as of the time of this research) COVID-19 pandemic.

Beyond the shift to remote and hybrid instruction during the worst of the COVID-19 pandemic, the school district has a particularly interesting history with technological change. In early 2014, the district was awarded a sizeable federal grant in the 2nd round of the Obama administration's "Race to the Top" grant; out of the full amount allotted to the district, which totaled in the tens of millions, the committee tasked with implementing the grant allocated just under 70% of those funds to "Technology acquisition and integration," the most prominent element of which was a "one-to-one" technology plan with the goal of providing a digital device for every student in the district (a goal met as of 2016, according to the district's website). The process of integration, however, is an ongoing effort both in the technical and rhetorical sense; the narratives I encountered, contrary to "official" takes on the matter, complicated the notion that integration is a seamless transition to a new set of tools or merely an "update" and instead implicated whole constellations of professional values and beliefs about education. As the meanings of technology are myriad rather than monolithic, the integration of new technologies also meant the renegotiations of technology's meanings, the practices surrounding it, and even the ways that identities are performed within the district and its schools. Indeed, de Koster *et al.* (2017) notes that the integration of technology into classroom practices is often fraught with starts, stops, unforeseen obstacles, and is often attributable to support provided by a particular school. Ultimately, integration of technology is not limited to its introduction, but is also a matter of constraining and coordinating the attitudes of various stakeholders toward the technology in question.

Given my interest in the ways that belief about technology is influenced by the ways it is written and spoken about, I focus on the ways in which socially-derived meanings are continuously attributed to the practices implicating technology in this research site. In this particular school district, the range of stakeholders as well as of public opinions on education and technology means the production of discourse about technology will be *heteroglossic*, containing "many voices" and value systems all vying for dominance. This particular school district presents an especially interesting site for studies of discourse about technology, for, within the context of a highly-diverse, multilingual, multicultural school district, attitudes toward technology take on expressly political implications as texts create meanings for technology—what is assumed to be true about it, what it is for, what is appropriate to say about it, and what is worth learning. Texts produced by federal institutions, by the school district, and by teachers, in short, privilege and perpetuate particular beliefs about technology as well as attitudes toward it; this is accomplished not only by the creation of regulations and best practices, but also by creating and institutionalizing specific ways of speaking about technology—i.e., organizational rhetorics about technology—so as to constrain the ways that texts addressing technology are produced within the organization. It is in this way that texts may be said to "build" the social realities of individuals.

The discourse found in institutional texts and at the research site is not meant to stand for the communicative practices of educational institutions writ large. The generalizability of this research extends only to the ways that similar investigations of the interaction of text production with other social practices may be themselves studied in other settings. In such a complex and diverse setting, technology can take so many different forms and meanings that accounting for attitudes toward them is fraught with methodological as well as political pitfalls, whether the

researcher uses more traditional measures of "attitude" (such as attitudinal surveys) or more discursive approaches; in either case, the researcher may be presented with either a cacophony of separate answers or an improperly-imposed unity. In order to see how technology is constructed in and across texts and how the social relationships are influencing the meanings given to technology at this site, I sought to be cognizant of the multiplicities and even contradictions in the texts rather than assuming unity of form, aim, or motivation.

A Discursive Basis for Media Ideologies

Meanings of "media ideology"

In keeping with the previous discussion on the social perception of phenomena as largely the product of discursive practices, I use the term "**media ideologies**" to refer to the discursive processes by which media technology and its uses are ascribed situated, normative meanings. Media ideologies, as opposed to more traditional measures of attitude, treat stances toward technology as context-bound, often irreducibly complex, and as the product of discursive processes rather than a given stance or set of propositions about technology. The phrase "media ideologies" is itself particularly useful in discourse studies because it focuses on the normative or evaluative knowledge that people have about technology and media. When applied to studies of discourse, this means that it enables a researcher to conceptualize some of the rhetorical aspects of discourse about technology and media, whether it is, for example, arguing for the quality of one smartphone over another in an advertisement or a Human Resource representative training employees in a new computer program.

The phrase "media ideologies" (Gershon, 2010a) refers to beliefs and attitudes regarding technology, especially digital media, premised on the user's sense of a technology's affordances. The term is often used to study the ways that views of a technology affect its use and vice versa,

with practitioners often assuming a view of technology that inhabits a large middle ground between deterministic views of technology and strictly practice-based approaches. The term "media ideologies" arises out of applied linguistics, where speaker knowledge and behavior are described in terms of an intricate dialectic, just as it is with its cognate, linguistic ideologies. Media ideologies, then, have been most often studied in terms of individuals' beliefs about a piece of media (i.e., what it is appropriate for, what form a message should take, or its timeliness), with an understanding that such beliefs about media will inform, though not determine, a given person's uses of media. The term "media ideologies" is thus a nexus for questions about the communicative qualities of media, the justifications for practices associated with one or another form of media, or people's overarching beliefs about forms of media or technology (Gershon, 2010a). I would also emphasize that media ideologies are not a set of static statements or propositions about technology that texts can be consolidated and amalgamated; media ideologies are more productively considered fluid discursive processes that continually endow meanings on technology and its uses. A media ideology, in other words, may be considered both 1) a belief about media technology and 2) the means by which that belief is sustained or expressed.

Media ideologies in applied linguistics

Much previous research on media ideologies has taken analytical tools from the study of language ideologies, including sampling techniques (ethnographic fieldwork and interviews) and the theories used to explain processes of standardization and subsequent linguistic discrimination. Philips (1998, p. 213, cited in Gershon, 2010a) writes that analysis of language ideologies should be studied not only in terms of their content (i.e., the beliefs of participants),

but also in their respective processes of institutionalization. This proposal was stated previously by Silverstein (1972), who, by attempting to formalize the interaction of language structure with social practice, focuses on the formation of speaker attitude and the double-articulation of an utterance (language as meaning and language as code). He writes, "the necessary conditions for the formation of ideologies, and the sufficient conditions for their institutionalization, ought really to be the heart of historical explanation, for this illustrates on a large scale what we are, for better or for worse, constantly doing to language in microcosm whenever we think about it" (p. 195). In other words, a language ideology—or indeed any ideology—arises not because of its inherent correctness or indeed any of its qualities, but because there are propitious processes of institutionalization, and by extension, processes of (re)production as well as rationalization and legitimation (van Leeuwen, 2008) that enable its propagation; in other words, it is not at issue here which ideology is "more accurate" or "more advanced," but rather the ways that an ideology is made to be accepted and to shove its rivals out of the running. **A media ideology, just as a language ideology, is at once a political and rhetorical project**. Indeed, it is this emphasis on processes of standardization that makes the concept of "media ideology" (coming as it does under a broader heading of "semiotic ideologies" [Gershon, 2010b]) particularly useful with regard to the study of discourse on technology in educational contexts.

The research that has created the history of the term "media ideologies," notably, has been generally ethnographic in its approach to its subject. Previous studies, then, have been largely descriptive, in the sense that media ideologies are treated as an interior, prior state, much in the same way as language ideology is studied, with dual emphasis on artifacts and elicitation of the emic perspective of the participants. In Gershon's (2010a, 2010b) research, media ideologies were studied through the use of interviews and analysis of social media artifacts, with

participants commenting on different mediums, their appropriateness for different communicative tasks, and their uses and choices regarding these mediums, as does Eisenlohr (2010). Some researchers (Kania-Lundholm & Torres, 2018) proceed strictly descriptively, using attitudinal surveys to find out how a population is being served or ignored by public service providers; Hull (2010), Ross (2019), and Vidali (2010) look at situated views of authenticity and its relationship to communicative medium; Silvio (2010) studies the media ideologies underlying the ability of animation to represent (i.e., "perform") human activity. Kunreuther (2010), notably, argues that the institutional media ideologies present in voices on radio have the ability to shape listeners' subjectivity, thereby focusing on the effects of a "dominant" media ideology (i.e., power relations). Researchers also tend to assume, as previous studies of the subject are situated largely within anthropological linguistics, that media ideologies arise and are made meaningful in social life by means of discourse. Indeed, Spitulnik Vidali (2010) writes that semiotic processes, including participation frameworks, contribute directly to media ideologies; Caronia (2012) likewise claims that media ideologies are "constituted in daily discourses" such as those found in domestic life, and thus situates media ideologies in terms of cultural transmission and even within processes of language socialization. Roderick (2016), working from within critical discourse studies, does not make use of the term "media ideologies," but likewise focuses on the ways that multimodal, public texts create normative knowledge both about the technological objects and their users. Media ideologies are, in other words, not merely studied through means of discourse (i.e., using interview transcripts to pursue underlying beliefs), but are assumed to be sustained by means of communicative practices.

When I use the term "media ideologies" in this dissertation, I take a somewhat novel approach relative to previous research on the subject: rather than using ethnographic or

anthropologically-oriented data focused on private individuals, this study makes use primarily of written artifacts produced by national actors as well as by employees of the school district as a means to investigate the ways that collective attitudes toward technology are negotiated and codified in institutional contexts. Indeed, corporately-produced texts represent shared ways of making meaning, and as such provide insight into the relationship between communicative practices and localized, normative beliefs about technology. I understand media ideologies as discursive processes, as part and parcel with the ways in which they are brought into discourse, that exist not only within communities, languages and individuals, but also as strategic elements in the management of organizations and institutions; they are, in other words, consubstantial with the ways that technology and media are "incited into discourse" (a phrase of Foucault's [1980] that describes the way power is exercised over an area of knowledge through the production of discourse concerning that object).

Lacunae—a discourse-studies approach to institutional media ideologies

In this dissertation, I add to previous research on media ideologies by investigating the ways that they are reproduced and institutionalized through texts produced by embedded stakeholders in federal agencies and in the school district described above, with the ultimate aim of theorizing how situated (i.e., context-bound) media ideologies form in institutional contexts. For all the research activity surrounding discourse and technology (in discourse studies, digital anthropology, digital sociology, management studies, and STS), there has been relatively little research to date on the ways that media ideologies (as strategic, localized discourses on technology) form by means of discourse at the level of institutions; Sims (2017), notably, investigates the social dynamics whereby idealistic beliefs about technology were upheld in the

context of a single school, but his focus is limited largely to the culture of the school rather than the constituting effects of its communicative practices. Researchers of discourse (see Roderick, 2016) also appear to have been generally content to look at expansive, national contexts (in the case of discourse studies) or more "organic" boundaries of communities (in the case of anthropological linguistics and digital ethnography) than local public institutions. There is much to be learned, I argue, from studying media ideologies as strategic discourses on technology, especially in that they may be seen as extensions of power and as unavoidably political rather than merely technical.

I use the term "institutional media ideology" to refer to media ideologies that are localized to specific organizations, public institutions, or industries. My use of the term, furthermore, does not refer to the distributed effect of "best practices" regarding technology use (since attitudes toward technology cannot be prescribed, only discrete behaviors) but rather refers to the processes by which technology is made meaningful at particular sites, professional domains, or social arenas. To investigate institutional media ideologies is to delineate the processes by which technology is made meaningful within specific professional or social arenas, which itself necessitates that I view context as a resource in the depiction of technology use—as established in digital anthropology and digital ethnography, the socially-sanctioned practices and uses to which technology is put (e.g., in the service of productivity or accuracy) are themselves heavily bound to context. This means that there may be myriad media ideologies present in an otherwise monolithic-seeming organization. Indeed, in this multi-faceted study, I consider institutional histories and aims, organizational structure, professional values, and stakeholder values as potential influences in the creation of institutional media ideologies.

By studying institutional media ideologies by means of discourse, I also assume that power is inextricably linked to the ways that technology may be given meaning. Indeed, in advancing an understanding of the role of discourse in the creation of social reality, I follow constructionist studies of organizational discourse such as Phillips *et al.* (2004) by treating the institution of public education (federal agencies and the school district) as a discursive construct, fashioned as it is on negotiated understandings of the actions and positions of its stakeholders. This, of course, means that institutions are not "machines" for perfectly reproducing particular behaviors, but are only mechanisms for enacting punitive measures. Over the course of this study, I found that individuals are indeed able to resist, to varying degrees, the media ideologies they are prompted to accept, as organizations are not able to entirely constrain the meaning-making of stakeholders, only to influence it. Furthermore, when beliefs about technology are influenced by powerful actors—that is, when readers are persuaded or incentivized to adopt a particular view of technology by, for example, governmental agencies, media organizations, or classroom teachers—it is not merely audiences' attitudes that are the being addressed, but also the ways they are able to speak about it; the creation of an institutional media ideology, in other words, is also the creation of a specialized, tacit rhetoric that affects (constrains or provides resources for) the production of discourse on one or another subject, and thereby that subject's role in the social reality of participants.

Ultimately, I argue that it is not merely the creation of guidelines or laws regarding media use nor the arguing over the meanings of technology that constitutes the creation of media ideologies, but even in seemingly innocuous depictions of technology—for by constructing technology as a discursive object, its meanings in a particular context are also potentially constrained. As Bourdieu (1994) writes, the construction of a collective object directly affects

"the kind of reception envisaged," and thus the boundaries of reasonableness (p. 506); indeed, by sampling data from multiple sources, I make the argument that media ideologies in institutions form as a result of discursive processes that reproduce the diffuse "background knowledge" necessary for endowing practices and discourse with specific meanings, and thus for users' engagement with media technology in socially meaningful ways. The institutionalization of media ideologies, then, being as they are discursive in nature, arguably consists largely in the generic association of communicative and social practices with conceptions of technology; thus, commonsense understandings of technology form largely as a result of their use as communicative resources given one or another rhetorical aim, with the result that specific media ideologies may become tacitly "encoded" into specific communicative practices, including "teacher talk" in a middle school and the creation of federal reports on educational technology. That is, they are better understood not as a shared belief about technology, but as a shared way of speaking about technology. In this way, I make a distinction between attitude and communicative practice, the latter being more appropriate for study of the creation and institutionalization of attitudes and beliefs about technology.

While there are indeed practical considerations for educational practice that I emphasize, this dissertation is primarily interested in elaborating the theoretical issues underlying the discursive construction of media ideologies by means of organizational texts and the possible political considerations of communicative practices. The methods and principles I discuss here, then, are not necessarily confined to research pertaining to educational contexts. Concerns which are explicitly educational are tertiary to the main emphases of this proposed study, but they are needed nonetheless in order to illustrate the ways that discursive processes gain social and political significance, which are inevitably tied to their respective social and cultural contexts.

Where educational practice and implications for literacy are discussed, in other words, they are done so in terms of their relationship to the discursive phenomenon in question (i.e., as an exemplar of the construction of media ideologies through discourse) more so than their application to teaching or educational policy.

This direction I am taking here is novel not in its emphasis on the discursive nature of media ideologies but rather in its specificity of its scope (i.e., emphasis on texts produced from within a single institution). This study takes it for granted that, when technology is incited to discourse, it also has a rhetorical element, a "should," encoded in the meanings and uses portrayed in the texts—the central focus of the study, then, is on the localized communicative practices that produce normative knowledge about technology. The answer, given that meaning is inherently social, will lie somewhere in the interaction between discourse and social life and their mutual constitution of each other.

In this dissertation, I ask the following questions of my data:

❖ How do institutional texts create situated media ideologies?

❖ How is power extended through the production of knowledge about technology within the context of public education?

❖ How do texts that support institutional media ideologies create and use their contexts?

❖ How are depictions of professional practices implicated in the creation of media ideologies?

❖ How do institutional media ideologies appear in the spoken discourse of stakeholders?

Why Study Media Ideologies?

To fully flesh out a discursive approach to the study of institutional media ideologies (and to demonstrate the usefulness of this sort of framework), this study also explores the implications

of media ideologies both for studies of literacy and for educational practice. In the case of literacy, media ideologies provide a way to gain insight into how schools legitimize (or delegitimize) digital literacy practices as part of a continuing rhetorical struggle over the meanings of new literacy technologies, thus situating media ideologies as a part of the competencies underlying literacy tasks. In the case of educational policy, the interrogating of media ideologies in education would be helpful for determining how media ideologies can conflict and what beliefs about technology are being institutionalized within public education.

Implications for Discourse Studies

Studying discourse about technology as media ideologies means that discursively-oriented approaches to social science research can account more fully for the on-the-ground implications of discourse about technology as well as how these discourses are typified in localized settings. This is particularly significant because the construction of the discursive object also interpolates, either directly or indirectly, the communicative practices of the users. In other words, this study demonstrates some of the ways that construction of discursive objects in turn feed back into communicative practices, in the sense that discourse about a specific medium may affect the uses or meanings (especially the relative prestige) of that medium. This latter point is indeed something that needs to be studied on its own terms; as Hymes (1972) writes, channel is highly variable and its meanings culturally-constructed, an assertion standing in stark contrast to more deterministic claims like McLuhan's well-known phrase "the medium in the message." The study of situated media ideologies may allow researchers to see more clearly how the meanings of mediums/channels form in the context of individual organizations and communities. Indeed, media ideologies in textual analysis provide a useful framework for

studying situated views of technology as parts of wider communicative economies of communities, organizations, and collectives. This emphasis on localized, situated discourses on technology and its interest in how broader discourses are recontextualized, given other meanings, and put to other uses also provides a needful counterpoint to studies of larger discourses on technology that would relegate localized meanings and constraints to the background of discussions.

In addition to exploration of the connection between discourse about technology as concept and technology as channel, this study also explores a discursive view of attitude and attitude change, one in which overt rhetoric is not the only aim, but the distributed rhetorical effects of the construction of technology. Because this study assumes a social constructivist epistemology, organizational efforts to change stakeholders' attitudes are seen not only in terms of the minds of individuals, but in terms of concerted efforts to constrain the production of discourse surrounding one or another object, thereby constraining what is reasonable to say about it. Indeed, attitude, where it is talked about in terms of discourse, is more commonly looked at in terms similar to "footing," meaning a "participant's alignment, or set or stance, or posture, or projected self," and a change in our "framing" of events (Goffman, 1981, p.128). Examples of this usage include Shi (2018) and Baker, Gabrielatos, and McEnery (2013). "Attitude" is also commonly used to refer to speaker attitude toward one or another language (see Herrando-Rodrigo, 2015). Organizations are themselves, writes Phillips *et al.* (2004), "constituted by the structured collections of texts that exist in a particular field," which in turn "produce the social categories and norms that shape the understandings and behaviors of actors" (p. 638). The study of media ideologies by means of texts, then, may afford insight into the ways that communicative practices may create or influence particular understandings of technology.

Lastly, as set out in more detail in the conclusion of this dissertation, analyzing domains as discursive resources is arguably a useful tool in textual analysis and discourse studies, especially regarding the production of digital texts and texts that address technology use or invoke institutional values in texts. While typically used for forming typologies of types of talk (Jacobson, 1960), conceptualizing domains as rhetorical constructs may also be helpful in further investigations of the interactions of texts with their contexts, specifically how processes of contextualization address technology use. How, for example, do texts create contexts that interpolate users only at specific times, during certain activities, certain frames, or specific identities? How is the overlapping of domains by means of digital technology addressed in written texts? How does a text interpolate a reader as a user, but without making a claim to entire constellations of identities? How has digital writing adjusted to new conceptions of domains? Given that a user may be present in any number of "domains" at any one time my means of digital technology, it is important to examine how texts are generally contextualized, but it is particularly important to do so in order to understand how texts become emblematic of institutionalized rhetorics, rhetorics that advance particular ideologies.

Implications for Literacy Scholarship

This research on technology in public schooling brings discourses on technology to bear on those threads of research which historicize literacy (Brandt, 2001; Clanchy, 2013; Graff, 1997). Many new literacy technologies suffer from "image problems" (Baron, 1999), and their legitimacy often needs to be argued for. If, indeed, new forms of technology often have to be legitimated, then the adoption of new literacy technologies can be expected to be accompanied by discursive struggles not only within discourses on education but any number of publicly-discussed issues, including the workplace. There is a rhetorical element, in other words, to the

introduction of any new literacy technology. With its emphasis on the ways that discourse about

technology is produced in the context of public education, this study bears witness to the ongoing

rhetorical struggle surrounding new literacy technologies that is undoubtedly being carried out

not only in in educational institutions, but in any organization that has a stake in what its

members think about technology and how they use it. Indeed, historians of literacy remark that

the introduction of new literacy technologies is characterized by pragmatic and piecemeal

adoption, resistance, and gradual ideological shifts. Discourses on technology and digital media

reflect specific political tensions that are, historically, typical of the development of one or

another communicative technology. Clanchy (2013), for example, argues that the introduction of

print into legal practices in Medieval Britain was fraught with difficulty, namely because the

populace distrusted it, and for good reason—forgery of important documents was rampant.

Clanchy writes that it was only when these specific fears and misgivings about the use of print

replacing previously oral modes were allayed that print-based literacies began to spread

throughout Britain more easily. Ultimately, the populace of Britain became literate, he writes,

not simply because the technology was available to them, but also because there was a sense of

the technology's prestige, usefulness, and sanctioning by centers of power. In sum, the meanings

of technology and its uses are not solidified, but myriad, and this presents a problem for any

institution or organization that has a stake in how users view literacy technologies.

This conversation is never entirely free from ideological forms of knowledge-making,

however. As concrete and stable as the word "literacy" may seem, Graff (1994) writes that this

seeming stability is derived from ideological conformity, not the nature of literacy. Even though

literacy is so often associated with "progress," especially in the developing world, the means for

encoding and decoding meaning through symbols have changed drastically over the centuries

and in different parts of the globe, and literacy does not develop uniformly or in the same way (p. 328). This same subject, the introduction of new literacy technologies, has historically been used as a sort of anthropological apologetics for western civilization by construing changes in technology with changes—all "positive"—in the minds of its users. The most prominent example of this, critiqued vociferously by Brian V. Street (1984), constituted what he called the "Great Divide" theory, positing that there was a social and cognitive gulf between those who had alphabetic literacy and those who did not. These arguments, more rhetorical than empirical, focus on the technology itself and come to something like the following conclusion: that an already-existing way of thinking (e.g., "scientific") was made possible by the introduction of this new medium, that "modes of thought" arose because of one or another technology. This discussion is a striking example of the ways that ideology inundates discussions of literacy, not only in public discourse but also in scholarly discourse (Graff, 1997). Ultimately, it is within the production of discourse about technology that emergent (as well as old) literacy practices are legitimated or delegitimated. The ways that technology is constructed in discourse, then, is an important area of inquiry for literacy studies.

In addition to the legitimation of emergent literacy practices, the study of media ideologies affords insight into the beliefs and aptitudes that make up the competencies of both staff and students required of them by institutions and which are preludes to "success"— understanding the aims of assignments, instructions, and fulfilling assignments, especially those which make use of essayist literacies (Farr, 1993; Domínguez Barajas, 2010; Scollon & Scollon, 1981), to name a few. When "literacy" is discussed as a goal in school, it is never simply literacy writ large, but it is "literacy-for-something, from-somewhere." In other words, literacy is never simply a set of skills separated from the value systems which define it—it is the farthest thing

from ideologically-neutral. Literacy instruction often demands the adoption of entirely new social identities and the adoption of whole new worldviews (Bizzell, 1984; Clanchy, 2013; Domínguez Barajas, 2010; Gee, 1996; Rose, 2005, 1989; Scollon & Scollon, 1981). Brian Street (1984) likewise writes that power is always implicated in the extension of literacy to a people or person, in so far as literacy resides not only in a given technology but also in the practices associated with that technology, what he calls "literacy practices." And practices, in Street's conceptualization of literacy, also include beliefs about what a person is doing when that person engages in one or another literacy practice. Indeed, it isn't only the literacies of students at issue here, but also the literacies of staff and teachers. I take views of technology and beliefs about it as part of competencies in one or another task, with the final result that sources of miscommunication between schools, families, and students are arguably based not only in language differences or cultural differences large-writ, but also different media ideologies. Identifying which media ideologies are present in schools and how they form, then, is especially important to understandings of emergent literacies in multicultural contexts.

The study of institutional media ideologies provides a way to focus on one particular and increasingly salient aspect of literacy sponsorship: what media ideologies are encoded in literacy sponsorships associated with technology (for example, the provision of laptops in "1-to-1 technology" districts). Despite emphases in the literature that would place instruction at the forefront of "literacy-in-schools," it is not simply the views of teachers and the everyday workings of classrooms that affect the meanings of literacy-in-schools, but entire economies of literacy sponsorship that surround the transmission of literacies (Brandt, 2001). The stances or beliefs that a literacy sponsor has toward technology, in sum, may also affect the manner, content, conditions and aims of that sponsorship. Indeed, Graff (1996) writes that the social goals

of the "sponsoring agencies" have always affected the outcomes of literacy instruction. Beliefs about technology, conveyed as they are through avenues of literacy sponsorship, are thus a fundamental and understudied part of literacy and key to understanding how access to literacy may be stratified even as access to technology increases, since the transmission of literacy also involves values and processes of enculturation (Warshauer, 2004). The media ideologies present in these transactions between schools and sponsors are an especially rich site to study the evolving dynamics of literacy sponsorship as well as the evolving contexts of literacy itself. The meanings of technology and media, like all elements of communicative behaviors, including the writing of academic essays, are highly situated and bound to their contexts (i.e., "indexical"). Even the most straightforward-seeming knowledge about media use arises out of specific practices situated in time and space so that the meanings of practices are themselves bound to their contexts (van Leeuwen, 2008, p. 5). Studies of literacy, both in academic and applied settings, will arguably benefit from a deeper understanding of the ways that media ideologies influence the meanings of literacy, including but not limited to their sheer variability, their indexical meanings in communicative events, and their reliance on cultural and social context.

There is, all in all, no vantage from which literacy can be viewed in its "pure" form—it is always interacting with the ideologies that people use to make sense of their respective social worlds. In this study, it is these ideologies which are put into the foreground, with the tertiary aim of more clearly explaining how public schools produce knowledge about digital technology. There is a need to understand how technology is spoken about in schools, and the study of media ideologies provides just such a useful analytical framework for analyzing legitimation of digital practices as well as the social construction of literacy competencies and the intricacies of literacy sponsorship in a digital age.

Implications for educational studies

Beyond the theoretical concerns involving the creation of ideologies and the discursive struggles surrounding the prestige of literacy practices, the investigation of media ideologies in terms of their creation and institutionalization also provides an opportunity for organizations—and especially those with educational emphases—to examine communication practices (and thus to integrate technology more effectively) by addressing the role of "background knowledge" about technology in communication and administration and how this background knowledge is formed and adjusted in discourse. Since technology has myriad meanings and uses in educational settings, there are arguably multiple, potentially contradictory media ideologies present in any single location, but in the context of an entire school district, the various beliefs about technology become a ponderous obstacle in terms of communication, pedagogy, and administration (Spillane, 2016). In this dissertation, educational concerns, both social and political, form the backdrop for the formation of media ideologies, since the ways that technology becomes meaningful are irrevocably tied to the context in which it is used and discussed.

This emphasis on discourse surrounding technology is indeed timely in educational circles, for despite the complexity and potential pitfalls of technology integration in educational institutions, public views about technology in education are often over-rosy in terms of the effects of technology integration and especially of program development; indeed, it is common to see large endowments going to academies which centralize the role of tech in learning and instruction. Sims (2017), writing about the ways that conceptualizations of tech find their way into school reform efforts, dubs this phenomenon "technoidealism," which is characterized by the deterministic assumption that adequate access to technology will lead easily to the

achievement of learning goals and even such advanced outcomes as "disruptive thinking" among students. Many reform efforts assume, he argues, that the promise of new technology can solve longstanding problems in education, such that old obstacles are encountered over and over again with seemingly unquenchable enthusiasm. Specifically, he writes, the ways that problems in education are talked about and conceptualized also "render them technical" and remove them from political considerations (see also Rose, 1999), such that new technology is assumed to solve problems in a straightforward, oft-mechanistic manner. This "rendering technical" is in turn a "depoliticizing" move (also see Ferguson, 1994). On the one hand, investigations of the assumptions underlying these efforts are needful for discussions of the ways that technology becomes meaningful in localized settings; on the other hand, the study of media ideologies, which are here treated as negotiable, variable, and a product of discourse, can be especially useful in identifying how different views of technology interact with each other in educational settings, and thusly for reexamining the roles of technology in education, both symbolic and technical.

PART II: METHODOLOGY

Discourse Analysis

Discourse studies ask how meaning, social action, and "public order" are created through language and other semiotic resources—in other words, these studies ask what kinds of things symbolic behaviors (i.e., practices of producing, communicating, and receiving discourse) are used for and how they do those things. Within a discourse studies framework, an understanding of the structure of language is not an end in itself as it is in structural linguistics; rather, discourse studies are focused on the ways that discourse and social life interact. Specifically, it seeks to formulate how various ways of speaking, writing, listening and reading interact with various

contexts to create situated meanings, with the result that few aspects of the communicative process are taken for granted; the meaning of an utterance, the intention of a speaker or writing, or even the very act of communicating--they are all problematized rather than assumed to be self-apparent or commonly understood. The term "discourse," even, has multiple—though not mutually-exclusive—meanings, including "actual stretches of talk" (Zhang Waring, 2018) and "social cognition" (van Leeuwen, 2008). Within discourse studies, there are any number of approaches available to the analyst, each with its own assumptions and research emphases, including how structure affects meaning, how identities are shaped or shape discourse, and how power is exerted through discursive construction of ideology (Zhang Waring, 2018). The ways that discourse becomes meaningful, all in all, is so varied and complex that no one analytical lens can shove out competing ones; as a result, the study of discourse is inherently and permanently interdisciplinary (Hymes, 1972) and highly reflexive (Phillips & Hardy, 2002).

Studies of discourse seek both to advance scholarly understanding of language use and also to aid in the understanding of real-world concerns (Zhang Waring, 2018) by investigating what is taken for granted in discourse and by investigating the ways that discourse gives meaning and structure to social life. In fact, in such studies, Phillips and Hardy (2002), positing a strong social constructivist epistemology, make no distinction between discourse (in the authors' case, described as "collections of texts" that constitute a body of knowledge on a subject) and social reality. Discourse—as a means to reflect on, constitute and change social life by endowing significance on peoples' experiences (Dominguez Barajas, 2010)—is not simply to be studied for its own sake, as a mental construct, or even as an aesthetic object (as in the case of poetry and verbal performance), but as a real part of the problems and issues of everyday life (Hymes, 1974). This means that, ultimately, it is not merely patterns of discourse that are being studied,

but social life itself; for it stands to reason that an understanding of the world and its various meanings are derived largely from the various forms of socialization and continuous socializing processes and activities that serve as the context for meaning-making. Ideology, then, is created in discourse not only by the creation of slogans and active restriction of publishing and denigration of one or another actor or group, but also by the strategic adjustment of what is deemed "reasonable" to say on a particular topic or on a particular occasion. It is precisely this meaning of "ideology" that is used here to conceptualize the normative knowledge surrounding the production of discourse about technology—that is, institutional media ideologies.

Focusing as it does on the creation of ideology, **I adopt a definition of discourse elaborated by Phillips and Hardy (2002), as "an interrelated set of texts, and the practices of their production, dissemination, and reception, that brings an object into being**" (p. 2). This definition, as opposed to conceptualizing discourse as social cognition (which must often take for granted certain ideologies, political stances, or opinions), focuses on the processes by which texts contribute to the construction of social reality, including by their formal features, norms of interpretation, or by the naturalization of political statements. Chapters 2 and 3 of this dissertation make use of a specific branch of discourse analysis, Critical Discourse Analysis, to mount an analysis of relevant data. This approach to discourse, arising out of the work of Teun van Dijk, Norman Fairclough, and James Paul Gee (Zhang Waring, 2018), treats discourse as the extension of power, and as such seeks to address questions of equity and democracy as they relate to discourse, including questions of "naturalization" and elision—that is, how specific points of view or ways of thinking are made to seem "natural," and how specific actors are removed from consideration or made to seem powerless. Analysts of this stripe seek to highlight the abuse of power and perpetuation of harm through discourse, taking an overtly political stance

with regard to their research, social justice being the goal. This approach to textual data in chapters 2 and 3 is especially appropriate given the role of these texts in shaping the opinions and beliefs (by offering an institutional rhetoric which strategically constricts their ability to produce discourse on educational technology) of a wide range of stakeholders in public education. (See introduction of chapters 2 and 3 for a more comprehensive discussion of this methodology.)

Chapter 4, which examines interview data from teachers within the school district, uses tools from interactional sociolinguistics—an approach to discourse analysis arising out of sociolinguistics and made popular by scholars John Gumperz and Irving Goffman—to elaborate the linguistic processes by which speakers make use of background knowledge to make situated meanings for the use of digital tools in their work. Contextualization cues, such as prosody or gestures, Gumperz (2003) writes, "construct the contextual ground for situated interpretation and thereby affects how constituent messages are understood" (p. 315). In other words, by looking at the ways that teachers make use of the social context to create situated meanings for the uses of digital tools, the social (and indeed ideological) aspects of shared belief, attitudes, and practices are also arguably on display.

The Data of Discourse Analysis: Texts in Context

This section explains the ways that texts are analyzed in discourse analysis and what kinds of claims are typically made about them. Ultimately, the texts that I target in this study are only a small part of the entire means interlocutors have of producing discourse about technology, and so I investigate select, situated processes of meaning-making—indeed, the ways that texts create contexts or make use of existing ones are themselves rich veins for investigation.

Given that discourse studies are oriented to the ways that texts accomplish tasks and create meaning in different times and situations, a deep and complex understanding of the interaction of text with context is fundamental to the enterprise. What context, for example, do texts make use of if a reader may read them in any number of circumstances? How do written texts create contexts? To investigate patterns of texts is not to claim access to the entire collective mind of a group or to all the ways that a community may make meaning; rather, such studies look at the ways that texts become meaningful in particular circumstances. Phillips and Hardy (2002) write:

> "Texts are not meaningful individually; it is only through their interconnectedness with other texts, the different discourses on which they draw, and the nature of their production, dissemination, and consumption that they are made meaningful. Discourse analysis explores how texts are *made* meaningful through these processes and also how they contribute to the constitution of social reality by *making* meaning" (Phillips & Brown, 1993) (emphasis theirs).

Texts produce meaning in such a way that the discourses present in any one place are at play in their production and reception. The resources present in individual texts, in other words, speak to the broader understandings and assumptions that undergird the social realities of participants even as those resources reinforce and negotiate those social realities.

Furthermore, texts are not a symptom of social life merely, but are social practices in and of themselves—they are taken to create social life along with other practices. To understand texts as social practices (as socially-regulated ways of doing things [van Leeuwen 2008]), it is necessary to establish what kinds of valence texts can be said to have in social life. Texts may encourage readings that challenge, revise, reinforce, and divert from situated meanings or public understandings. Studying texts as social practices, then, involves studying the ways that meaning is made and negotiated in context. Indeed, when the word "context" is used here, it is not referring to the geographical, cultural, or social location of the study merely, but primarily the

way that context is used as a resource in the furtherance of rhetorical aims—that is, as processes of **contextualization**, in which a speaker or writer seeks to have an amenable vision of the context of an utterance or text accepted by their audience. This means that context, as it relates to the study of written texts, is taken as a process. It does not mean that the times, constraints, events, and people of the research site are not considered at all or are considered social fictions, but rather that the emphasis here is on the ways that the context is created in the text--that is, as something continually achieved in discourse rather than exterior to it. Indeed, I would argue that processes of contextualization are key to understanding the creation and institutionalization of media ideologies.

PART III: OVERVIEW OF THE DISSERTATION CHAPTERS

As established in this first chapter, this dissertation examines the creation and institutionalization of media ideologies at multiple levels: the national; the local; and the personal. By using a gradually narrowing lens, the ensuing chapters consider the social dynamics and communicative practices by which technology is given meaning in the context of public education in the United States. The ultimate aim of this study is to conceptualize, in terms of discursive processes as well as the social stakes of these processes, how media ideologies are institutionalized and perpetuated across professional domains.

Chapter 2 sets a foundation for the study by taking a national view of media ideologies in public education. There, I perform a critical discourse analysis of National Education Technology Plans (NETPs) published in 2004 and 2010 under two different U.S. presidential administrations. The strategies present in these texts (which exhort states, school districts, and schools to integrate digital tools into their classrooms) are taken as examples of the creation of widespread, dominant media ideologies in the ways that they create or constrain possibilities for

the further creation of discourse about technology. These institutional texts are examined as examples of the creation of institutional rhetorics in that the processes of ascribing value to the use of digital tools systematically elide political or cultural meanings in favor of purely "technical" ones. In this chapter, I establish how processes of contextualization contribute to the formation of institutional media ideologies.

In chapter 3, I narrow the focus from the national to the local level. Using Multimodal Critical Discourse Analysis (van Leeuwen, 2008), I analyze two texts, one internal and one public, produced by the administrative offices of the school district, focusing on the ways that these texts create media ideologies that support the ongoing integration of digital technologies into classrooms across the district. The discursive means by which digital tools are shown to be embedded in educational practice are argued to have special significance for the creation of media ideologies, which are posited to exist as part of a rhetorical campaign to create a favorable environment for continuing integration of digital technologies. In this chapter, I argue, using the theories of Theo van Leeuwen (2008), that media ideologies are not separate from the aims of the document and its respective rhetorical situation, but are rather present within the ways that social practices implicating technology are recontextualized in one or another document type, further attesting to the need to treat "banal" discourse about digital technology as having implicit political significance.

In Chapter 4, I narrow the focus even further, centering on the spoken discourse of teachers in the school district. Using a combination of questionnaire data and interviews, I focus there on the discursive strategies by which teachers endow the use of digital tools with social meaning. This chapter uses tools from interactional sociolinguistics to study the ways that participants contextualized their practices and claimed positive social values for themselves as

they spoke about their technology use. In this same chapter, I use the results of a questionnaire to create an overall picture of attitudes toward digital tools in the school district, but also to point out the necessarily limited scope of quantitative results when such issues as belief and attitude are being studied, a discursive analysis arguably offering more nuanced insights into the ways that technology becomes meaningful *in situ*.

In Chapter 5, I conclude the dissertation by discussing the implications of the proposed study's findings with regard to studies of discourse and digital literacy. It is argued that a rigorous conceptualization of the ways that technology becomes meaningful in institutional contexts is a needed counterpoint to the tendency of scholarship as well as public media to assume rather than demonstrate the boundaries of the contexts by which technology becomes meaningful. A deeper understanding of the ways that technology becomes meaningful by means of discourse as well as the myriad forms media ideologies may take, it is argued, is deeply important in discussions of the "ethics" of technology integration and public services given conflicting media ideologies among stakeholders along with unequal levels of power between them.

CHAPTER 2: MEDIA IDEOLOGIES AS INSTITUTIONAL RHETORICS

PART I: INTRODUCTION: TWO EDUCATIONAL TECHNOLOGY PLANS (2004 & 2010)

   In this dissertation, I sample institutional discourse at 3 separate levels: the national, the local, and the personal. In this chapter, I begin with the first of these, demonstrating how institutional media ideologies can be explicated in terms of discursive strategies apparent in two prominent textual artifacts dedicated to the role of technology in public education: **National Education Technology Plans** (NETPs). By considering these artifacts as the production of prominent discourses on technology, I am able to trace, subsequently, influences or parallels between nationally circulated media ideologies and the emergence of a more localized one. In this chapter, I consider two consecutive NETPs—one generated in 2004 during the George W. Bush administration (for full text see https://files.eric.ed.gov/fulltext/ED484046.pdf) and the other generated in 2010 under the Barack Obama administration (for full text see https://files.eric.ed.gov/fulltext/ED512681.pdf). Furthering the argument that institutional media ideologies may be studied as discursive processes, this chapter aims to investigate the ways that institutional media ideologies may be thought of as "institutional rhetorics" for discourse about media and technology by creating and constraining possibilities for making-meaning about them.

   A discourse studies approach to the study of institutional media ideologies needs a rigorous framework for the ways that contexts are created in discourse so as to address particular audiences and invoke particular institutional values. Indeed, texts, the primary data of discourse analysis, are only meaningful in context, since their meanings are arrived at by an interplay with their contexts. As Blommaert (2004) points out, any understanding of the ways that people make sense of discourse must also take into account how they use context to interpret that discourse. Contexts, then, are communicative resources (Blommaert, 2004) used in the pursuance of

communicative aims, and, from the point of view of discourse, are operations by the interlocutors more so than actual, objective locations or situations. I take the processes of contextualization present in the data as a primary concern of this chapter, along with rhetorical strategies in narrative passages, as a way to investigate the transmission and institutionalization of institutional media ideologies by means of texts.

This conceptualization of institutional media ideologies as "institutional rhetorics" addressing themselves to the uses and meanings of media and technology is based on the assumption, elaborated in social constructivist studies of organizations and institutional analysis, that institutions are themselves discursive constructs and that their ability to enact punitive measures on behavior (which is itself one of the key criteria for an institution) are maintained by means of texts (Phillips *et al.,* 2004). The institutionalization of specific meanings and uses of media and technology, then, is considered here as a function of texts that inform the creation of other texts, whether speech or visuals. The analysis offered here reveals how the NETPs in question enable or hinder conditions for the further creation of meaning about technology in public schooling by virtue of their widespread circulation and their ability to codify the ways that technology is made meaningful in the domain of public education.

This chapter is largely a demonstration of a discourse studies approach to the analysis of institutional media ideologies, as much to show its difficulty as to show how it may be done fruitfully. The aim is to show how, even though discourse about technology may be similar across institutional and professional lines, the normative force of that knowledge—the media ideologies—will not only be rhetorical but also "localized," in that existing values and assumptions of one or another social or professional boundary (or even a single organization) will be at play in the creation of situated meaning; this means that special attention to the social

categories which are made to bear on issues of technology and media are vital to a discourse studies framework for discourse on technology and media—and this happens on a case-by-case basis instead of on the basis of a general taxonomy of texts made to apply across social settings.

As Phillips and Hardy (2002) point out, a researcher cannot exhaust a discourse—it is simply not possible to find every single instance of a discourse or every single text that may contribute to it. The distribution of a discourse is not empirically verifiable in the way that, say, a virus is—there is no "patient zero" with whom a specific way of speaking about technology arose. Analysts of discourse can only discover traces of discourses (Phillips & Hardy, 2002, p. 74). A close reading of these two National Educational Technology Reports (NETPs) is not meant to illustrate what its authors think or to codify an "official stance" on technology, but to investigate how media ideologies are constructed as a part of rhetorical strategies—that is, the means by which normative or moral understandings of technology are implicated in a text, where the ability to reach a proper understanding of a text requires a specific, even tacit, understanding of technology's role in society and in education. As detailed in the introduction, the texts are not taken as indications of actual attitudes merely, but also as the creation and reinforcement of those attitudes by adding to the discourses that make any social act intelligible.

This chapter argues, ultimately, that these exemplars of National Educational Technology Plans exhibit key features in the creation of institutional media ideologies that solidify the characterization of institutional media ideologies as "institutional rhetorics" in that 1) they are widespread and influential texts, that 2) they strategically and repeatedly construe elements of positively-understood educational practice with specific uses of technology, and 3) that they strategically re-create contexts (global and local) for their subject matter amenable to technological change. The media ideologies that are constructed in these texts, ultimately, make

technological change seem inevitable and urgent with references to "connectedness" (a shorthand for international competition and digital media practices) while also making such change seem politically unproblematic. By the creation of radically-interconnected contexts, rapid and wholesale technological change is cast as a quest for competitive advantage in a world in which distance between nations, markets, and institutions has been largely diminished by digital technology. Technological change is, ultimately, cast as a "force of history" that schools need to accommodate rather than as a process in which citizens may participate and exert meaningful control.

PART II: METHODOLOGY

The Data: National Education Technology Reports, 2004 and 2010

Since institutional media ideologies are conceptualized here in terms of discursive processes, these National Educational Technology Plans are arguably an important step in that process—they state, writ-large, what the needs are and what is to be done with regard to the implementation of technology in public schools. The National Education Technology Report is, simply put, a set of recommendations (with accompanying examples and research) for the use of digital technology in public schools. Each of the NETPs in question, before the body of the report, contains a letter from the Secretary of Education to the United States Congress; this would suggest that the documents' primary audience is lawmakers, even though their distribution and overall effect is more diffuse. In these documents, authors establish the current state of technology use in public schools, predict what technological change may add to the process of public education, and set out a number of recommendations for states, school districts, and schools to follow.

These two reports, making a total of 197 pages of text, were published consecutively, in 2004 and 2010. While it would make initial sense to treat the report sequence as representative of an "evolution of thought," their action points and even rhetoric being similar (as demonstrated in analysis of argument structure below), it is problematic to assume in advance that a comprehensive media ideology will be apparent across both texts; even though they are exemplars of a single genre, these documents arise out of different states of technological development and different political climates; they also make different arguments about the uses of technology in schooling. Crucially, however, they overlap in terms of the textual strategies by which they create media ideologies: through contextualization strategies that foreground a radically-connected, hyper-competitive, globalized labor market; and through repeated association of technology use with positive value in educational practice, including such metaphors as "connectedness" and through repeated mentions of student engagement following naturally from the use of digital tools.

These artifacts were chosen as exemplars of the construction of institutional media ideologies for the following reasons:

- ❖ their widespread circulation (the website of the Office of Educational Technology refers to the document as the "flagship educational technology policy document for the United States," the first two reports also containing letters to the U.S. Congress in its early pages);

- ❖ their apparent intent of affecting the discourse and administration surrounding technological change in public education (both in terms of infrastructure and educational practice) at the level of states, districts, and schools, the reports' stated audiences being primarily lawmakers and officials rather than teachers; and

❖ the reports' release in conjunction with two different federal reform efforts, No Child

Left Behind (2001) and Race-to-the-Top (2010) as well as their discussion of these

reform efforts (especially justification, see NETP 2010 p. 28, NETP 2004 p. 11.).

The political and administrative environments into which these reports are disseminated,

furthermore, are highly complex, and this complexity is apparent in their rhetorical strategies.

These National Educational Technology Reports are deliberately composed so as to cast a

dynamic vision for educational technology; they are not technical reports but are rather

composed in the manner of political rhetoric in that they are meant to engage the imagination and

values of readers, as is apparent in the title of NETP 2004: "*Toward a New Golden Age in*

American Education: How the Internet, the Law, and Today's Students are Revolutionizing

Expectations." The day-to-day uses and administration of technology use in schools, notably, is

outside the purview of federal involvement (see Sims, 2017 on the "decentralization of decision-

making" at local levels), and, so, where technology use and meaning is discussed in these

reports, it is not law but merely recommendations directed to officials and lawmakers. The actual

application and indeed most of the funding for the projects depicted in the NETPs needs come

from places other than the federal government. Left without the ability to appeal to authority,

states being relatively autonomous with regard to most educational policies, these reports are

primarily persuasive.

Context to Data: National Education Technology Plans and Trends in Federal Education Reform

Studying institutional media ideologies as discursive processes arguably involves seeing

how technology is implicated in other aims—efficiency, expansion, or surveillance, to name a

few. To establish context of the NETPs' publication, I discuss some relevant goals in federal

education reform as well as some recent work on the role of technology in education reform. The history of education reform being a complex field of actors, aims, and histories, any picture will be necessarily incomplete; the themes that characterize federal reform efforts since the 1980s, however, are important for understanding the role that technology is made to play therein. Indeed, McIntush (2000) writes that education itself is a political tool, taken as a means to other ends more so than an end it itself (p. 434). In order to understand how technology and media are implicated in federal reform efforts, it is also necessary to set out the aims, means, and political backdrop of that reform. Institutional media ideologies are not perpetuated separately from the other aims of the organization, in other words, but are themselves part of the process of institutional change—this change being a discursive as well as technical process (O' Connor 2000; Heracleous & Barrett, 2001).

The integration of technology into schooling is not merely a matter of creating more efficient classrooms, but it has an often-unstated political aim as well. Sims (2017) notes that the long-term political goals of federal education reform, among such other goals as consolidating "control over educational agendas, "decentralization of decision-making and bringing about standardized metrics, also involves "deploying new information technologies that would facilitate the capture, aggregation, and flow of metrics about performance upward to managers as well as outward to consumers" (pp. 42-3). This emphasis in federal education reform is indeed borne out by the NETPs studied in this chapter, as seen in the recommendations in both NETP 2004 and 2010, which have been summarized below for purposes of comparison (the title of the recommendation is included first, with the provided summary of that recommendation following in parentheses):

NETP 2004:
1. Strengthen Leadership ("For public education to benefit from the rapidly evolving development of information and communication technology, leaders at every level—school, district, and state—must not only supervise, but provide informed, creative and ultimately transformative leadership for systemic change.")
2. Consider Innovative Budgeting ("Needed technology often can be funded successfully through innovative restructuring and reallocation of existing budgets to realize efficiencies and cost savings. The new focus begins with the educational objective and evaluates funding requests – for technology or other programs – in terms of how they support student learning. Today, every program in No Child Left Behind is an opportunity for technology funding – but the focus is on how the funding will help attain specific educational goals" [p. 40])
3. Improve Teacher Training ("Teachers have more resources available through technology than ever before, but some have not received sufficient training in the effective use of technology to enhance learning. Teachers need access to research, examples and innovations as well as staff development to learn best practices. The U.S. Department of Education is currently funding research studies to evaluate the effective use of technology for teaching and learning. The National Science Foundation also provides major support for educational research" [pp. 40-41])
4. Support E-Learning and Virtual Schools ("In the past five years there has been significant growth in organized online instruction (e-learning) and "virtual" schools, making it possible for students at all levels to receive high quality supplemental or full courses of instruction personalized to their needs. Traditional schools are turning to these services to expand opportunities and choices for students and professional development for teachers [pp. 41-42].)
5. Encourage Broadband Access ("Most public schools, colleges and universities now have access to high-speed, high-capacity broadband communications. However, broadband access 24 hours a day, seven days a week, 365 days a year could help teachers and students to realize the full potential of this technology and broadband technology needs to be properly maintained" [p. 42])
6. Move Toward Digital Content ("A perennial problem for schools, teachers and students is that textbooks are increasingly expensive, quickly outdated and physically cumbersome. A move away from reliance on textbooks to the use of multimedia or online information (digital content) offers many advantages, including cost savings, increased efficiency, improved accessibility, and enhancing learning opportunities in a format that engages today's web-savvy students" [p. 43]).
7. Integrate Data Systems ("Integrated, interoperable data systems are the key to better allocation of resources, greater management efficiency, and online and technology-based assessments of student performance that empower educators to transform teaching and personalize instruction" [p. 44])

NETP 2010:
1) Learning: Engage and Empower ("All learners will have engaging and empowering learning experiences both in and out of school that prepare them to be active, creative, knowledgeable, and ethical participants in our globally networked society" [p. xvi])
2) Assessment: Measure What Matters ("Our education system at all levels will leverage the power of technology to measure what matters and use assessment data for continuous improvement" [p. xvii])
3) Teaching: Prepare and Connect ("Professional educators will be supported individually and in teams by technology that connects them to data, content, resources, expertise, and

learning experiences that enable and inspire more effective teaching for all learners" [p. xviii])

4) Infrastructure: Access and Enable ("All students and educators will have access to a comprehensive infrastructure for learning when and where they need it" [p. xix])

5) Productivity: Redesign and Transform ("Our education system at all levels will redesign processes and structures to take advantage of the power of technology to improve learning outcomes while making more efficient use of time, money, and staff" [p. xx])

Both NETPs state the need for an "integrated data system" (see action point 7 of NETP 2004 and action point 5 of NETP 2010) which makes student, class, and teacher data available to a wide variety of shareholders. Likewise, both NETPs emphasize teacher training and professional development (see recommendation 3 of both NETPs) with regard to classroom technologies and partnerships with industry and business. The introduction of "marketlike conditions" is also implicated in the action points of NETP 2004, which encourages lawmakers to "support digital content" and also to open the way for online schools and e-learning (see action point 4). These recommendations also reflect the above-noted tendency of federal reform efforts toward assessment reform (see action point 7 of NETP 2004 and point 2 of NETP 2010), a longstanding goal of federal education agencies (see Mehta, 2013). For example, the need for surveillance is given softer language in the NETPs, with appeals to "continuous improvement" of learning and of teaching (see NETP 2004, p. 44; NETP 2010, pp. xx-xxi, 6, 25, 31, 34) as well as types and manner of assessment (see NETP 2010, p. 32, 33; 34-5). Action point 7 in NETP 2004, for example, steps out reasons for creating a system by which stakeholders can access data on schools, staff, and students. The report states, "Integrated, interoperable data systems are the key to better allocation of resources, greater management efficiency, and online and technology-based assessments of student performance that empower educators to transform teaching and personalize instruction" (p. 44). In addition to providing student and school-level data to other stakeholders, action point 7 of NETP 2004 also recommends that states and schools "Use

assessment results to inform and differentiate instruction for every child" (p. 44). Here, the report references a longer-standing goal, the "capture, aggregation and flow of metrics" mentioned by Sims (2017) but with the added application of "individualization" of instruction. Also apparent in the final action point of NETP 2004 is another use of empirical data—the use of metrics to inform and refine instructional techniques. This application is also mentioned in the second action point of NETP 2010, though the creation of interoperable data systems is also distributed between other action points and stated in terms of different activities, including "learning" (action point 1) and "productivity" (action point 5). Action point 2 is described briefly as, "Assessment: Measure what matters: Our education system at all levels will leverage the power of technology to measure what matters and use assessment data for continuous improvement" (NETP 2010, xvii). Given the longstanding goal of pushing schools toward providing data to stakeholders, this excerpt demonstrates that the argument for it involves portraying advantageous uses of that data other than surveillance and "accountability."

In addition to supporting longstanding goals in federal education reform, the NETPs also implicate concurrent, shorter-term reform programs. Specifically, they were published during education reform efforts by two different presidential administrations from two different political parties: George W. Bush's administration "No Child Left Behind," and the Obama administration's "Race to the Top," a series of competitive grants based on adoption of a reform program featuring implementation of assessment and infrastructure changes. The reports present markedly different tones with regard to education reform and its aims, even if the actual recommendations remain notably similar. The differences in reform agendas are apparent in the undertones of the document: the 2004 report actively avoids making the case for intervention in education by the federal government, choosing instead to argue, albeit subtly, that technological

change is coming inevitably and from the ground up (see pp. 9-10); the 2010 report, seeming to respond directly to this philosophy, argues directly for "aggressive" interventions. The 2010 report states, "We are guided in these and other education initiatives by Secretary Duncan's conviction that we need revolutionary transformation, not evolutionary tinkering, and we know that transformation cannot be achieved through outdated reform strategies that take decades to unfold" (NETP 2010, p. 3). These two themes, representing as they do two different reports and different political climates, also show different assumptions about education reform and institutional support, making them prime candidates for the study of institutional media ideologies.

A Nation at Risk and federal discourse on educational technology

In addition to conceptualizing context in terms of institutional histories and trajectories of change, it is also necessary to see how other key institutional texts might have influenced discourse about education reform in the United States. Here, the lasting effect of the much-studied report *A Nation at Risk* (*NAR*) is suggested to have influenced discourse surrounding the implementation of technology in schooling. The discursive background of the NETPs involves a longstanding paradigm in education reform, shaped and codified largely by *NAR*, in which public education was declared "broken," thus opening the door to any number of other actors and influences which may offer "fixes."

It is generally agreed upon in scholarly work on education reform that the rhetorical landscape surrounding education reform in the United States is dominated by *NAR*, which was commissioned in 1983 by the conservative Reagan administration. Mehta (2013) has argued that the report reshaped the paradigm by which education reform is understood in the U.S., crystalizing nascent movements at the federal and state levels, with educational outcomes being

effectively and widely construed with the economic prosperity of the nation; the report ultimately gave energy to a nascent "state reform movement" and effectively consolidated themes from both the political left and the right, such that there is no longer any "pro-education" party. Mehta notes that the new paradigm sparked by *NAR* included "schooling's economic importance, the need for across-the-board improvement, the responsibility of schools rather than society for tackling the reform challenges, and the measurement of success by test scores" (p. 314). The report's press coverage, McIntush (2000) notes, was ubiquitous, with sections reprinted in prominent newspapers around the U.S. on the day of its publication. With its widespread distribution, the report came to be the authoritative statement not only on what was "broken" but also on what philosophies of education were reasonable to espouse in political contexts. McIntush writes that *NAR* effectively consolidated views of education (in governmental contexts) as an individual source for economic advancement and as subject to market forces, and only secondarily as a means of personal enrichment. The most lasting effect of the NAR report on the discourse surrounding education reform, however, was that education was cast as something that would help a person become competitive economically, shifting from "education-as-a-means-of-social-equalization" to "education-as-means-of-economic-competition" (p. 434). She writes that more recently, however, discourse on education is discussed both as a civil right and as a means of competition; indeed, both of these themes are present in the NETP reports and are used as a premise in arguments for technological change in schools.

The understanding among the public and legislators in the years following *NAR* was that public education was effectively "broken" and, given the newly-assumed "centrality of the link between education production and economic growth," (Mehta, 2013, p. 297), this opened the door for any number of other actors, especially private interests (Mehta, 2013; also see

Hermansen, 2016 for a discussion of the marketing rhetoric of for-profit colleges). The ways that

a problem is framed, Mehta argues, empowers one or another type of actor—e.g., if efficiency is

the problem, then business sectors are given an "open door" (p. 292). It is this assumption that

schools are "behind the tide of history" that also allows a new narrative to stand in the

background and give meaning to discussions of "innovation"—that **schools are not keeping up**

or doing their part, which means that they are standing in the way of progress. And

progress, in the West, arguably conjures up an image of technical change. Schools are thusly

given the task of giving students the means to succeed in a digital world by providing "21st

century competencies" as well as providing training in new technology.

In addition to an overall assessment of public education, there is also a unique

phenomenon related to technological discourses that lends itself to optimism about the effects of

technological change. In public settings, optimism about technology in schooling often overrides

reticence or criticality, and scholarship is not immune to this leaning. Reeves and Oh (2017),

conducting a meta-analysis of the leading journal *Education Technology and Research*, note that,

while diverging modes of thought are indeed present with regard to the efficacy of technology in

schooling, there were no critical/postmodern articles published in the time periods mentioned,

the emphasis often being more on learning outcomes and the use of tools rather than their

meanings. Furthermore, scholarly views of technology in education reform also have "partisan"

lines. Sims (2017) suggests there are roughly two lines of thought about technology in

educational reform: "optimistic," representing "progressive" views of reform which would

implement market-like values into schooling and generally represent technical change in positive

terms; and "cynical," representing more critical approaches to the study of schooling, in which

researchers often technological change as extension and consolidation of control over staff and

students. He also notes that these two strains of scholarship, however, hold similar assumptions about technology. He writes,

> …while optimists and cynics typically hold opposing assumptions about the inherent function of educational institutions, they ironically tend to share similar assumptions about the special role that new technologies play in these processes. Both optimists and cynics tend to assign to new technological breakthroughs a predominant, if not determining, role in their accounts, they just cast new technologies as heroes and villains, respectively. Optimists tend to see techno-scientific innovations as finally allowing education to make good on its democratic promises, whereas cynics tend to see the deployment of new technologies as reinforcing the reach and power of technocratic modes of control. (pp. 6-7)

Each one of these orientations, notably, often do not focus on the ways that meanings of technology form *in situ,* but rather tend to presuppose their meanings. Sims writes that studies representing these two orientations often take views of technology in keeping with their respective theoretical frameworks, technology being either an aid to learning or as potentially liberative, or as an extension of power, respectively.

In educational practice, professional responsibilities inevitably overlap into issues of human rights or dignity; with their repeated appeals to the welfare of students, there is an implied ethical imperative in these reports that schools adapt to technological changes. The assumptions codified by *NAR* make possible a very specific appeal to users of technology, one that appears frequently in the NETPs—technological change is given a specific moral force that did not need articulation to be felt, since the vision of a "digital future" and a technologically-barren past automatically amounts to an appeal to continued viability. "Get on board with the change, lest the customer," says this appeal, "simply go elsewhere." Indeed, students are portrayed in the reports as customers who are "tech-savvy" and "frustrated," with education being cast in both reports as "behind" private enterprise and industry in the use of technology and media, which,

given an assumption that education is vital to the "life of the nation," is a fumbling of the public trust.

This brings up an important point about the study of media ideologies by means of texts and textual production—no textual ecology (especially one that begins at the federal level and works downward to individual school districts) will be a complete account of a media ideology's processes nor will it be possible to identify causation between texts, since it is not always possible to identify all the resources by which readers will make sense of a document; it is possible, however, to find traces of a discourse and thereby come to understand how discourses change in specific circumstances and places over time. By establishing institutional histories as well as important elements of the discursive background, the processes by which technology and media become meaningful in particular institutional contexts may be conceptualized more fully.

Overview of Analytical Process

In this chapter, focusing as it does on the creation of ideology by means of discourse, I make use of Critical Discourse Analysis (CDA) to identify the ways that power is implicated in 2 consecutive NETPs (2004, 2010), my ultimate goal being to demonstrate how the discursive strategies in these documents might affect the further creation of discourse about educational technology. I ask: **what kind of technology use and technological change is naturalized in these documents, and how is this naturalization occurring**?

Parsing such large texts as these NETPs for research purposes presents logistical as well as methodological difficulties, and excerpts have been selected to demonstrate the strategies and processes by which media ideologies are produced in them. Passages selected for analysis are not meant to stand as characteristic of entire texts, and further study of other excerpts would likely yield new themes of interest. For the scope of this study, the analysis is comprised of two stages:

(1) establishing discursive themes (conceptualized as binaries) over the entirety of the reports, and (2) then studying, by means of close reading, the specific ways that these themes are enacted and supported by strategies located in smaller units of discourse, including groupings of paragraphs and individual sentences. In both stages, the analysis focuses on the ways that the normative force of views, attitudes, and uses of technology and media are constructed in these texts, whether through rhetorical appeals, the creation of contexts for technology use, or the invocation of values.

Stage 1: Establishing Discursive Themes in NETPs 2004 and 2010

As a first step in the discursive analysis process, selected excerpts are mined for recurring themes, thematic recurrence being a key discursive strategy in the institutionalization of media ideologies. In the NETPs considered, the repeated reference to binary concepts ensures that the favored term in the binaries is systematically linked to educational practices involving the use of digital technologies. These binaries are: **old vs. new**; **passivity vs. engagement**; and **siloed vs. connected**. Crucially, in each of these pairings, technology becomes, tacitly, a means for realizing each of these ideals (i.e., "engagement") and also for avoiding the negative side of the binary (i.e., "passivity"). I argue that these binaries are key mechanisms for conferring positive and negative value to practices pertaining to technology.

These terms were not chosen merely according to frequency (which is not necessarily a predictor of impact), but rather by 1) identifying terms that are used to describe positive organizational goals and positive change and then 2) analyzing the functions of these terms in their specific contexts. Here, the themes that I discuss, "future vs. past," "engagement vs. passivity," and "siloed vs. connectivity," are conceptualized as binaries, with the first term characterizing a negative educational value and the second a positive educational value. The

reasons for this methodological choice are as follows. Firstly, these binaries reflect larger

strategies by which obstacles and problems are depicted in these texts—especially in depictions

of the media use of teachers. Any obstacle, human or otherwise, to the achievement of the goals

as they are set out here is thereby associated with the negative side of the pole. It is this dual

process, the providing of a positive value to achieve and a negative vision to avoid, that partially

gives this particular institutional media ideology its normative force. However much there is

mention of engagement, for example, there is also the implication or direct mention of the *failure*

to engage. Even the name of NETP 2004, "Transforming American Education," may cause an

analyst to ask, *Transforming it from what?* Given that schools are already largely assumed to be

"failing," this is often an unstated premise in the reports. Indeed, by intertextual reference to

NAR, the continuing failure of public education is set as a condition of this "call to action." The

second reason for using binaries to define themes has to do with the political consequences of

discourse on educational technology, in that this choice situates these discourses as arenas of

discursive struggles, in which one position is proffered and another disparaged or simply elided.

Whereas the "positive" pole of the binary will be emphasized and be attributed positive values,

the negative poles are often used to identify the objects of the media ideologies indirectly, at the

same stroke invoking positive as well as negative values with regard to attitudes toward and uses

of educational technology—the discourses refer to "a-thing-to-be," and "a-thing-not-to-be."

Since many of the rhetorical strategies present in the data constituted elision of specific

voices and actors, the conceptualization of these discourses as binaries also facilitates a

clear view of those actors that are otherwise "backgrounded" (that is, the voices of these

actors being subtly excluded from the discourse; see van Leeuwen 2008, p. 29) are

integrated into the discussion rather than being an afterthought. This emphasis on the

"backgrounded" actors and voices is especially important for discussions of media ideologies, the reason being that the objects of discourse, those whose attitudes and beliefs about technology are being addressed or discussed—the object of the media ideology, in the case of the NETPs, being a separate thing than the audience of the discourse—are frequently conceptualized in non-human terms and are thusly "hidden" in the discourse.

Every and Auguostinos (2008) note that binaries are often used (for example, in discourse on immigration policy of western nations) to structure the "standard story" by using widespread majority beliefs as implicit rhetorical levers, one side of the binary (along with its advocates) being "obviously right" and any designated proponents of the opposite position "obviously wrong." This discursive strategy is similar to a "straw man fallacy" in informal logic—there are, for example, no occasions where "passivity" is preferable to "engagement," although specific parties may become associated with such propositions in particular texts by their stance on the issue. Public debate on one or another issue may thusly be constructed in texts and used to justify particular stances on those issues—and affecting public discourse is arguably the goal of the NETPs.

These binaries, beyond construing digital tools with particular educational values, also create a distinct **vocabulary** to which further discourse about technology in schooling may refer. Indeed, in further chapters in this dissertation, certain key themes arise which reflect the discourse of these reports, including "student engagement" and "personalization" of instruction. The processes associated with these binaries were key to the institutionalization of media ideologies in these texts given their aims, in that they are creating and constraining possibilities for discourse about technology by associating technological change and media use with institutional values. These binaries refer not to actual devices or technologies, but to the

affordances of technology, a possibility and specific type of use. It is partially in this way that institutional media ideologies may be said to come about and gradually be institutionalized themselves, that value (positive and negative) gradually comes to be associated with practices, attitudes, and beliefs regarding technology.

In the texts under analysis here, NETP 2004 and NETP 2010, these themes' function is not merely to state the needs of learners or to cast a vision for educational technology, **but to justify technological change in terms of institutional values**—that is, to create a bridge between specific organizational goals and the application of technology so that, in the text, it is taken for granted that the achievement of a goal (to which there is not a clear counterargument, the argument in each case being implied rather than elaborated) implies specific technological means. It becomes common knowledge (that is, a recurring textual strategy) that for such cultural values as "connectedness," "individualization," and even "cultural currency" to be realized, specific applications of technology must be a taken-for-granted means of achieving them. This process by which professional values are construed by means of discourse with uses and attitudes toward technology is a key part of the institutionalization of media ideologies.

Stage 2: Enacting a Close Reading of NETPs 2004 and 2010

In the second part of this analysis, several key passages from NETP 2004 and NETP 2010 are subjected to close reading in order to investigate the textual strategies which underlie the creation of media ideologies, specifically the rhetorical means by which media ideologies are presented. These passages represent narrative portions of the reports, including general introductions as well as introductions to individual sections of the reports. The excerpts are analyzed first in terms of their structure and argument (i.e., stating a problem and solution), then their respective processes of contextualization, and finally in terms of their rhetorical strategies.

The excerpts were selected not because they are the most characteristic of institutional media ideologies across the entire document (these are discursively constructed and myriad), but rather because they represent convenient examples of the ways that institutional media ideologies function as discursive processes in texts.

The first excerpt in close reading is taken from the introduction to NETP 2004. The first two subsections are considered because, aside from mere convenience (the document is 46 pages long), it is in these two sections that the argument (the need for change, the type of change envisioned, and the obstacles to that change) is set out in broad strokes, and the remainder of the introduction addresses these same areas in finer detail and makes similar arguments (i.e., that there is a need for schools to make more adequate use of technology). Excerpt 2 is a passage taken from NETP 2004, placed immediately after excerpt 1 in the document; the exigence of the document is there set out in a little more detail. Excerpt 3, a narrative portion of NETP 2010, introduces technology not only as a tool for educational objectives but as a reality of a "globally connected economy" and thus a needful component of schooling if students are to be competitive. This section is also the first mention of technology in NETP 2010, the first 3 pages being the establishing of need, goals, and context to the report.

In the following excerpts, I have added emphasis for ease of reading. The text of the excerpts is centered on the page, while discursive binaries are included on the left so as to indicate their uses in context. The right-hand column indicates the larger discursive units of the excerpts by dividing them into segments according to their function in the section. This grouping of paragraphs into sections was chosen on the basis of shared functions as well as similarities between paragraph topics and was aided by the identification of discourse markers that indicate

cross-paragraph cohesion (i.e., such words as "but," "however," or ordinal markers such as "first" or "second").

PART III: Discursive Analysis of Thematic Binaries in 2004 and 2010 NETPs

Theme 1: Old vs. New

As vague as this category would otherwise be, it is a prominent theme in NETPs 2004 and 2010. There are multiple phrases and strategies which come under this heading of "old vs. new," and these are often subtle. Their function, however, is systematically rhetorical, in that they depict the present using phrases such as "21st Century" or words like "vibrant," "innovative," and "engaging," while words like "traditional" or "change," are woven together to create an overall impression that schools are mired in a past riddled with inefficiency, and that "the world" has moved on without them. Even where other themes such as "engagement vs. passivity" are present, the "old and new" is also present as an organizing principle for the other values, such that "new" becomes associated with efficiency, engagement, and innovation, and the "old" with the variously outmoded—this means that the "old-new" binary has myriad functions, whether to show divides between teachers and students, highlight differences between education and other industries, or to talk about the literacy practices of students and teachers. Notably, the word "new" is the 16th most prominent term in NETP 2004, with a total of 58 separate occurrences. The term "traditional" occurs in NETP 2004 only 4 separate times, but in such a way as to show systematic construing of "old ways" with "non-digital ways." The term's function, in each occurrence, is used in tandem with references to distance learning or E-schooling, thus creating a "before-and-after" conceptualization (the term and phrases suggesting temporal progression to the present are highlighted in the following quoted passages for ease of reference):

❖ "**There has been explosive growth** in the availability of online instruction and virtual schools, complementing **traditional** instruction with high quality courses tailored to the needs of individual students" (NETP 2004, p. 7).

❖ "**With more choices available**, **traditional** schools **are turning to** distance education to expand offerings for students and increase professional development opportunities for teachers" (NETP 2004, p. 36)

❖ "Some of the most promising **new educational approaches are being developed** outside the **traditional** educational system, through e-learning and virtual schools" (NETP 2004, p. 45).

❖ "**Traditional** schools **are turning to** these services to expand opportunities and choices for students and professional development for teachers" (NEPT 2004, p. 42).

In these excerpts, there is a dichotomy being created between the "traditional" and the "new," with the latter representing "promise," "newness," "expanded opportunities and choices," whereas the former is made, by implication, to represent exhausted resources and limited opportunities, given that the tools and means of "traditional education" are unnamed, while e-learning and virtual schools are referred to as "high-quality" and as "promising," with the suggestion of increased opportunity in the final entry ("expand opportunities and choices"). The structured, repeated use of the term in reference to e-learning constructs the "progressive" and "regressive" in terms not only of their technological advancement and training of staff in these technologies, but also of schools opening up to third-party vendors that design and facilitate such e-schools. Other mentions of the past in NETP 2004, however, are more straightforward in their characterization of the ideological aspects of non-committal to changes proposed in the report, and it is here that one of the more political-sounding aspects of the media ideologies present in NETP 2004 are found. The following example is taken from a section titled "Tear down those walls: The Revolution is Underway" in which positive examples of schools and districts implementing technology in learning are offered in detail in the form of vignettes. In this excerpt, the introduction to these vignettes, political metaphors reminiscent of the 1980s are invoked by way of direct use of the imperative phrase uttered by Ronald Reagan in the 1987

"Berlin Wall" speech. The metaphors ascribe overtly political valence to the attitudes and

practices of school staff with regard to technology:

> **Walls – both physical and philosophical – have held back** new, more creative and more effective uses of the Internet in schools.
>
> […]
>
> The problem is not necessarily lack of funds, but **lack of adequate training and lack of understanding** of how computers can be used to enrich the learning experience. The good news is that things are changing.
>
> […]
>
> As the following examples from across the country demonstrate, the results in educational achievement often have been significant. The **restrictive walls of the past** are being torn down and a transformation in teaching is underway. (p. 22)

In this excerpt, there is a thinly-veiled reference to the fall of the Berlin Wall, by reference to

"revolution" and the "walls of the past…being torn down," with the suggestion of a restricted,

almost "Soviet" past, which is itself textured with political and cultural meaning, among which

are arguments for capitalism over communism, technological backwardness being associated

with the latter. Also notable here is the way that this "restrictive past" is construed with "lack of

adequate training and lack of understanding," which itself functions as a call to reeducate staff

and change the minds of personnel, who, notably, are not mentioned directly, but are elided from

the discourse and situated in impersonal terms (see van Leeuwen 2008).

Whereas NETP 2004 would seem direct in its denigration of the late 20th century in

public education by comparison, the language of NETP 2010 is not as quick to disparage

"tradition" or the past, though the implications are notably similar. It simply points to a world

which has "moved on":

> The Department of Education's decisions and actions—and those of the entire education system and its stakeholders throughout the United States—**must be guided by the world we live in, which demands that we think differently about education than we have in**

> **the past**. Technology and the Internet have fostered an increasingly competitive and interdependent global economy and transformed nearly every aspect of our daily lives—how we work; play; interact with family, friends, and communities; and learn new things. (NETP 2010, p. 4) (emphasis added).

The connection implied here between "daily life" (i.e., "the rest of the world") and schooling is one found throughout both reports: that education has fallen behind other domains of life, even the generic "personal lives" of students. The argument that education should respond to "the world as it is" is perhaps not controversial, but "the world" is then posited to be characterized by technological advancement—the current state of globalism is subtly credited to recent advances in technology, a questionable proposition given that this report is published in 2010, and globalism has been a subject of scholarly discourse decades prior. Here, then, is a prime example of the discursive "grafting" of a specific institutional value, "currency," with technology as a "social force," with the result that technology is given specific meaning in the context of education, in the form of a hidden third premise: "education should integrate current technology if they are to serve their societal function of ensuring economic competitiveness."

References to time frequently appear as discursive resources in arguments for technological change, including discourses of the past, the present, and future. There is also a special urgency in phrases that describe the future, and especially the future workplace. Another phrase that serves to establish this binary is the phrase "21st century," the uses of which, importantly, construe time and needful competencies with a specific state of technological advancement. The phrase appears in both NETP 2004 and NETP 2010, but are made to serve different functions in each report. In NETP 2004, the phrase "21st century" is used to give currency to or justify one or another practice:

❖ "E-learning and virtual schooling are essentially the same product: they provide individual online instruction. They are **the 21st century version of distance-learning** through correspondence courses by mail" (NETP 2004 p. 24-5) (emphasis added).

❖ Technology ignites opportunities for learning, engages today's students as active learners and participants in decision-making on their own educational futures and prepares our nation for the **demands of a global society in the 21st century** (NETP 2004, p. 46) (emphasis added).

In the first excerpt, virtual schooling is cast as appropriate and timely given the available needs and means. In the second, the 21st century refers to the digitally-interconnected global economy in which competition between nations has redefined work and competitiveness. Both, notably, refer to the 21st century as connected by means of technology, but in such a way that it "demands" currency. Even though its occurrence is brief, its function is systematic—to construe the state of the present with technological advancement, and thereby to imply that needful skills are also defined in terms of this advancement.

NETP 2010, in contrast to NETP 2004, uses the phrase "21st century" to refer directly, not indirectly, to a combination of competencies and technology. The phrase is used to refer to knowledge a total of 17 times, and as technology 4 times. Here is a breakdown of the uses of the phrase "21st Century" in NETP 2010:

Table 1.1 Uses of the phrase "21st century" in NETP 2010 to implicate knowledge (e.g., "competencies") or technology.

Head noun	Possessor	Number of occurrences
Knowledge	Students	8
Knowledge	Teachers	5
Knowledge	Citizens	2
Knowledge	(no possessor)	2
Technology	Teachers	1
Technology and knowledge	Students	3
Technology and knowledge	Students and teachers	1

This distribution is meant to demonstrate a systematic construing of the "present" with particular kinds of technological progress, in that the knowledge appropriate to the present is itself determined by it. Within the phrase "21st century skills," there is an argument being made for the teaching of technology in schools by implicitly stating the nature of these skills—technological skills. These associations and distribution of the iterations also serve to concatenate technology with learning by means of their concurrence in time:

- ❖ Whether the domain is English language arts, mathematics, sciences, social studies, history, art, or music, **21st-century competencies** and such expertise as critical thinking, complex problem solving, collaboration, and multimedia communication should be woven into all content areas. (NETP 2010, xi)
- ❖ A crucial step in transforming American education to produce expert learners is creating, revising, and adopting content standards and learning objectives for all content areas that reflect **21st-century expertise and the power of technology** to improve learning (NETP 2010, p. 15).

In this co-occurrence of technology with knowledge, advancement and readiness of students, an oft-assumed responsibility of public schooling, is presented as presumably dependent on schools' ability to respond to the needs of industry and the 21st century workplace. The phrase "It's the 21st century" is, by extension, taken as an argument for technological change, given that teachers and schools are assumed to be "guardians of the future," which makes being "behind-the-times" a keen and felt failure.

Collectively, these examples indicate an important overall strategy of the NETPs: representing the present and future as advanced and the past as inefficient and with the suggestion of a recalcitrant proclivity for old equipment. Crucially, this strategy involves not only representations of the past, but by continued references to a digital present, including by means of references to students' literacy practices (ones which are overwhelmingly steeped in the myth of the "digital native"; see Kirschner and De Bruyckere, 2017) and the state of technological development in other industries. There are thusly no accomplishments or examples

from the past by which "traditional" schools or educational systems can justify themselves in this new environment, and they are in the same stroke categorized as unfit not only for a digital future, but also as unfit for the present—schools that are not technologically advanced are being cast as backward-facing and failing in their task to prepare students for the "21st century workplace."

Theme 2: Passivity vs. engagement

The reports' emphasis on "engagement" of students by means of digital technology amounts to a fundamental assumption that technology in and of itself is an avenue to increased student buy-in. The uses of the word "engagement," however, stop short of equating digital technology directly with increased engagement, often suggesting that teachers would simply have more means to engage their students given access to digital tools. In the 2004 report, the phrase "tech-savvy students" appears 8 times throughout the report, including twice in the report's action points (p. 39, 43) and in the conclusion to the report (p. 45). The term functions to accentuate students' "frustration" with schools (p. 22, 39) or to accentuate the relative inability of staff and teachers to use technology (p. 5, 45). The "disconnect" (a term from Levin and Arefeh, 2002) between students and teachers is presented as a problem, the solution for which, it is implied, is to make more adequate use of technology. The disconnect is meant to stand for a larger goal, the "marriage" (see close reading of Excerpt 1 below) between two estranged worlds and yet is not thoroughly elaborated in terms of a goal—it is merely assumed that more technology will mean more and easier engagement. Indeed, the word "engages" only appears twice, once in an action point urging lawmakers to move toward digital content in schooling, and once in the final paragraph of the conclusion of NETP 2004. The concept is codified much more fully, however,

in the 2010 report—the plan's first action point is titled "Learning: Engage and Empower."

When the word "engage" is used (not counting headings) in the 2010 report, it refers almost

exclusively to students' learning, and out of 29 total appearances of the term in the 2010 report,

17 times "learners" or "students" are the objects of the verb. The term "engage" often appears in

tandem with "motivation," such that technology is situated as a means to create new

opportunities for students to interact with material. In NETP 2010, the collocations of the word

"engage" function to construe the use of technology with increased attention and involvement

from students. "Engaging" as an adjective appears 21 times with a notable coinciding between

the phrase "learning experiences," and less so "tools." As these collocations are repeated

through the document, they come to create a functional assumption that is present in both

reports: that digital media will facilitate more meaningful involvement of students in class, both

because it is more familiar to students (itself a problematic assumption, since familiarity with

cutting-edge or even current digital technology is highly dependent on socioeconomic status and

background) and because it provides more variety and means of interactivity. Also present in this

theme is the suggestion of classroom democracy, with students "empowered" to become co-

investigators with teachers and to take more command of their own learning. Technology

becomes a means to conscionable teaching, it being negligent to know something that would

make teaching better and refuse to do so.

In the following excerpt, taken from the opening of NETP 2010, there is only sparse

mention of technology (indeed, technology of any sort is conspicuously absent from the report

until page 4, which is analyzed in detail in the next section), but the way that technology is

implicated is notable:

> …schools must be more than **information factories**; they must be incubators of
> exploration and invention. Educators must be more than information experts; they must

be **collaborators** in learning, seeking **new knowledge** and constantly acquiring new skills alongside their students. Students must be fully engaged in school—intellectually, socially, and emotionally. This level of engagement requires the chance to work on interesting and relevant projects, the use of technology environments and resources, and access to an extended social network of adults and peers who support their intellectual growth. (NETP 2010, p. 1) (emphasis added).

What is especially notable in this excerpt is the way in which the first side of the binary, the "negative" node, is portrayed using an industrial metaphor, the "factory," a means of mass production and cost efficiency, and the "expert," suggested to be insular and distant. The latter node, the "positive," is referred to using an organic metaphor ("incubators of exploration and invention") and "openness" to difference and emergent knowledge. What role is created for technology, then? Indirectly, with reference to interest, relevance, tech, and a social network, digital technology is cast as a means to fuller—and indeed more "human"—engagement. Even though technology is mentioned explicitly in the second "requirement" for engagement, the mentions of "relevant" projects as well as "social networks" implicate uses of technology as well, even though they are presented as separate concerns from technology.

Engagement of students by means of technology is emphasized throughout the reports, the main premise being that students' use of digital media outside the classroom is meaningful to students because it is digital, but it manages also to avoid the implication that the mere injection of digital technology into schools will also amount to engagement. To varying degrees, both NETPs situate the pursuit of meaningful connection between students and teachers within their ability to use technology according to the expectations of students, though always indirectly, and especially with references to work situations which call for creativity rather than rote learning. It is not only, then, the technology itself that is called for, but also the adoption of the sorts of attitudes and skills that would seem to have arisen in this new, interconnected work environment: "exploration," "innovation," and an openness to new knowledge and kinds of connections.

Engagement, then, is connected to technology by means of other values or activities in which technology is also embedded.

Theme 3: Siloed vs. Connected

The ability of technology to connect previously separate areas of knowledge, people, or categories is another prominent theme in both reports and is often used to justify an integrated data system in which data on students and teachers, in the form of assessments and records, would be made easily available to administrators, lawmakers, and researchers. In NETP 2004, the "Siloed vs. Connected" binary is often achieved using metaphors:

- ❖ Progressive teachers, principals and superintendents understand this. As examples cited in this report demonstrate, they have successfully adapted the endless opportunities presented by computer technology and **married** them in creative and challenging ways to the high-level technical capabilities and motivation of their students (NETP 2004, p. 11).
- ❖ **Integrated, interoperable** data systems are the key to better allocation of resources, greater management efficiency, and online and technology-based assessments of student performance that empower educators to transform teaching and personalize instruction (NETP 2004, p. 44).
- ❖ Virtually every public school has access to the Internet. Yet in most schools, it is business as usual. **Computers are enclosed in computer rooms** rather than being a central part of the learning experience (NETP 2004, p. 22)
- ❖ "The **restrictive walls of the past** are being torn down and a transformation in teaching is underway" (NETP 2004, p. 22).

Collectively, these examples from NETP 2004 suggest that political metaphors are used here to argue for technological change by using a common political trope in the U.S., "choice" being equated with "freedom." A reading of these excerpts that acknowledges the politicized language, "joining" being construed as positive and "enclosed" being negative, suggests that educational staff who are not open to technology in schools are not only closed to possibilities for improvement, but are actively harming students in the manner of a dictatorship, keeping "walls" intact out of sheer self-interest—a better way is known, but not implemented. In contrast to the Soviet-era trope of separation and restriction arguably manifested in the Berlin Wall, the trope of

"connectedness" in NETP 2004 is given similar political valence, but in this case with

"democracy" and "free trade."

In NETP 2010, the binary "Siloed vs. Connected" is less political, but far more prominent

overall. The goals discussed for teacher preparation are even titled "Teaching: Prepare and

Connect." This "connectivity" is strictly a technical one and refers throughout to digital tools. It

is defined in the report thusly:

> In **connected teaching**, classroom educators are fully instrumented, with 24/7 **access** to
> data about student learning and analytic tools that help them act on the insights the data
> provide. They are **connected** to their students and to professional content, resources, and
> systems that empower them to create, manage, and assess engaging and relevant learning
> experiences for students both in and out of school. They also are **connected** to resources
> and expertise that improve their own instructional practices, continually add to their
> competencies and expertise, and guide them in becoming facilitators and collaborators in
> their students' increasingly self-directed learning (p. 40) (emphasis added).

It is here suggested that by making use of digital tools, educators are able to be better assessors,

to professional development, to "engineering the learning experience" of their students, with the

result (a suggestion in the final line being that it is perhaps inevitable) the "connected classroom"

is more democratized and its students become more self-directed. Thus, technology becomes

construed with democratization by means of "connection." Including headings, the term

"connect" appears 9 times over the course of the document, all of them in reference to teachers

or educational staff. "Connected," on the other hand, appears a total of 40 times, of which 35

references are to teaching or to teachers. This excerpt from the executive summary demonstrates

the range of uses to which the term is put:

> Just as leveraging technology can help us improve learning and assessment, the model of
> learning calls for using technology to help build the capacity of educators by enabling a
> shift to a model of **connected teaching**. In such a teaching model, teams of **connected**
> educators replace solo practitioners, classrooms are fully **connected** to provide educators
> with 24/7 access to data and analytic tools, and educators have **access** to resources that
> help them act on the insights the data provide. (xii) (emphasis added).

With its suggestion of collaborative work, creativity, and an empirical basis for actions and efficiency, "connected teaching" comes to mean "well-equipped teaching." Any mode of teaching that does not make use of technology in such ways, then, becomes "disconnected" or "ill-equipped."

Just as the promotion of literacy arises out of a sponsors' need to access (or create) an audience (Brandt, 2001), discourses of connectivity are themselves multifaceted, especially where data is used to form assessments of performance. "Connectivity" goes both ways—it not only gives users access to resources, but also gives others access to the user; it refers also to more advanced surveillance by overseers. Indeed, the extensive and sustained arguments for increased data gathering and centralized storage of data from students, teachers, and schools indicates that this is a central goal of technology integration in schools, present in both NETP 2004 and NETP 2010. These arguments for increased surveillance ("accountability"), however, are situated within discussions of learning.

Discussion of themes in NETP 2004 and 2010

Through the discursive process discussed here, the construction of binaries, technology is endowed tacitly with social meanings that construe technological change with the suggestion of positive culture change in public schooling. Through their repetition, educational technology comes to have particular institutional meanings: the "newness" of technology offers a sense of possibility while also pointing to anxieties over globalism; the appeal to "engagement" appeals to the myth of the "digital native" while also foregrounding the affordances of digital tools in creating "learning experiences"; and "connectivity" appeals to a diffuse sense of inclusivity, openness, and flexibility. These themes, more so than describing concrete changes or goals that digital tools may meet, depict technological change as a ubiquitous, historical force rather than as

the product of human agency. In doing so, these documents also cast resistance to technological change—or indeed anything that may be called resistance—backward-looking by implication.

How does this process discussed here, the repeated use of thematic binaries, further the idea that media ideologies may be viewed as institutional rhetorics (i.e., able to strategically constrain further discourse on technology in schooling)? By endowing positive institutional value on digital tools, these binaries ultimately create a vocabulary with which to describe the outcomes of technological change in schooling in terms of **reform**, not merely infrastructure. That the changes, substantially realized, also involve careful planning and on-the-ground expertise (as will be seen in chapters 3 and 4), is relegated to the background. In this case, the use of binaries to implicate technology use in terms of educational values and the gradual construing of the two is mixing two orders of discourse, educational and technical, so as to begin creating a new order (see Fairclough, 1989, p. 171-2)—a technical understanding of education. Fairclough (1989) notes that different discourse types, combined often enough, may over time become "seamless" and their values intertwined, such that "the novel combination of discourse types (may) come to be naturalized" (p. 172). By casting technological change as an historical force while also couching it within the language of education reform, roles are provided in advance for those who would argue the point: the potential controversy surrounding technological updates in public schools is stacked in the reformers' favor in that objections to technological change have the implication of willful (and even ethically-reprehensible, given the stated benefits of digital tools in schooling) recalcitrance.

PART IV: CLOSE READING ANALYSIS OF EXCERPTS FROM 2004 AND 2010 NETPS

The Data: Three Excerpts from 2004 and 2010 NETPs

Excerpt 1 – "Introduction" from NETP 2004

Section 1: The problem (There is an ongoing achievement deficit among American students)	Twenty-one years ago, the U.S. Department of Education's National Commission on Excellence in Education published the landmark report, *A Nation at Risk*. It warned that "the educational foundations of our society are being eroded by a rising tide of mediocrity that threatens our very future as a nation and a people." (Paragraph break) It made the case that students are *not being challenged* with high quality mathematics and science curricula and many students are not learning the basic skills. A majority of our secondary school students still are not grade-level proficient in reading, mathematics or science. The data for minority students remain alarming. (NEPT 2004, p. 9).	Old vs. New

Passivity vs. Engagement |
| Section 2: The Solution (A groundswell of technological change combined with determination and NCLB will lead to reform) | (Paragraph break) But change is in the air. Clearly, we must innovate for our country to succeed in this time of rapidly increasing **global competition**. This innovation is occurring. We see dramatic changes taking place in the educational landscape – a new excitement in the vast possibilities of **the digital age** for changing how we learn, how we teach, and **how the various segments of our educational system fit together** – a ferment for reform that is bringing changes undreamt of even five years ago and unparalleled in our nation's history (Paragraph break) With one notable exception, *No Child Left Behind*, these changes are being driven by forces in the field. They are being driven by the new realities of the digital marketplace, the rapid development of "virtual" schools, and the enthusiasm of an amazing generation of students weaned on the marvels of technology who are literally forcing our schools to adapt and change in ways never before imagined. As one high schooler put it, "we have technology in our blood." | Siloed vs. Connected

Future vs. Past

Siloed vs. Connected |
| Section 3: "What a future!" (The current direction is toward drastic improvement) | (Paragraph break) In education, this is a nation on the move and the pace is accelerating. Without seeking to overlook the very real challenges that remain, we feel the present evidence suggests strongly that we may be entering a **new golden age** in American education. | Future vs. Past |

Excerpt 2: "Improvements will be Dramatic"

Section 1: The problem (technology use in schools is lacking because of ill-use and lack of training)	This report was undertaken by the staff of the U.S. Department of Education in response to a request from Congress for an update on the status of educational technology. As the field work progressed, it became obvious that while the development of educational technology was thriving, its application in our schools often was not. Over the past 10 years, 99 percent of our schools have been **connected to the Internet** with a 5:1 student to computer ratio. (Paragraph break) Yet, we have not realized the promise of technology in education. Essentially, providing the hardware without adequate training in its use – and in its endless possibilities for enriching the learning experience – meant that the great promise of Internet technology was frequently unrealized. **Computers, instead of transforming education, were often shunted to a "computer room,"** where they were little used and poorly maintained. Students mastered the wonders of the **Internet at home, not in school.** (Paragraph break) Today's students, of almost any age, are far ahead of their teachers in computer literacy. They prefer to access subject information on the Internet, where it is more abundant, more accessible and more up-to-date. (Paragraph break)	Siloed vs. Connected Siloed vs. Connected Siloed vs. Connected
Section 2: Solution (Progress can be made by using tech. to challenge students and bring equity to learning)	Progressive teachers, principals and superintendents understand this. As examples cited in this report demonstrate, they have successfully adapted the endless opportunities presented by computer technology and **married** them in creative and challenging ways to the high-level technical capabilities and motivation of their students. Students and teachers become partners in the exploration of this new universe. (Paragraph break)	Siloed vs. Connected
Section 3: "What a future!" (The effect of technology is schooling will be augmented by NCLB)	Thus students, teachers and technology are driving a return to educational excellence. But complementing these is what will surely be seen as the single most important driver of educational progress in the coming decade: the *No Child Left Behind Act*, passed in Congress in 2001 with strong bipartisan support. This seminal legislation with its 2014 deadlines is breathtaking in its scope and poses powerful goals to the education community. Within 10 years it aims to abolish illiteracy and bring millions of children currently "lost" to the educational system into the mainstream of learning and achievement. It is comparable in many ways to this country's 1960s quest to put a man on the moon. Combined with the increased use of new technologies and the motivated expertise of today's students, it means that 10 years from now we could be looking at the greatest leap forward in achievement in the history of education. By any measure, the improvements will be dramatic.	

Excerpt 3 – NETP 2010, "Drivers of Change" (p. 4)

Section 1: The problem (Students need experience with digital technology to be competitive in a globalized economy, and schools are not providing these experiences)	The Department of Education's decisions and actions—and those of the entire education system and its stakeholders throughout the United States—must be guided by the world we live in, which demands that we think differently about education than we have **in the past**. Technology and the Internet have fostered an increasingly **competitive** and **interdependent** global economy and transformed nearly every aspect of our daily lives—how we work; play; interact with family, friends, and communities; and learn new things. (Paragraph break)	Old vs. New Siloed vs. Connected
	The context of **global interdependence** is especially important for this generation of students because only individuals and nations working together will solve many of today's challenges. The leadership of the United States in the world depends on educating a generation of young people who are capable of navigating an **interdependent world** and **collaborating** across borders and cultures to address today's great problems. (Paragraph break)	Siloed vs. Connected
	Another important context is the growing **disparity** between students' experiences in and out of school. Students use computers, mobile devices, and the Internet to create their own **engaging learning experiences** outside school and after school hours—experiences that too often are radically different from what they are exposed to in school. Our leadership in the world depends on educating a generation of young people who know how to use technology to learn both formally and informally. (Paragraph break)	Siloed vs. Connected Passivity vs. Engagement
Section 2: The solution (Technology can change educational preparedness of students, but only with change to attitudes toward technology by educators)	Technology itself is an important driver of change. **Contemporary** technology offers unprecedented performance, adaptability, and cost-effectiveness. (Paragraph break) Technology can enable transforming education but only if we commit to the change that it will bring to our education system. For example, students come to school with mobile devices that let them **carry the Internet in their pockets** and search the Web for the answers to test questions. While such behavior **traditionally has been viewed** as cheating, with such ubiquitous access to information is it time to change what and how we teach? Similarly, do we ignore the informal learning enabled by technology outside school, or do we create equally engaging and relevant experiences inside school and **blend** the two?	Old vs. New Siloed vs. Connected Old vs. New Siloed vs. Connected
Section 3: "There is work for us to do" (Given the great need, we need approach the question thoughtfully)	(Paragraph break) We know from our rankings in the world in terms of academic achievement and graduation rates that what we have been doing to fill our education pipeline and ensure students graduate is not working. Getting students to stay in school is crucial, and equipping them with the skills they need to learn to be successful throughout their lives is equally important. (Paragraph break) The essential question facing us as we transform the U.S. education system is this: What should learning in the 21st century look like? (p. 4)	

Discussion of close readings

> *Structure of arguments*

Each of the above excerpts begins with a similar structure with regard to the first two sections: they begin in section 1 by stating a problem (achievement deficit in NETP 2004, and anxieties about globalism in NETP 2010) and then introducing technology either by referring to the current state of technological development (i.e., "the vast possibilities of the digital age," NETP 2004, p. 9) or in terms of "everyday uses" (see section 1 of excerpt 3) so that, ultimately, technology is introduced in the manner of a solution. However much the language of each report would seem to avoid the impression of blind optimism (note the section 3 of excerpt 1 and section 2 of excerpt 2) regarding the introduction of digital technology to educational problems, this "problem-solution" structure actively encourages a reading which would take technological advancement as an unproblematic answer. Indeed, in section 1 of all 3 excerpts, the context is established in terms of a history of problems and failures. In the cast of NETP 2004, this context is established with reference to *A Nation at Risk*, citing a history of "mediocrity"; in excerpt 3, from NETP 2010, the problem is stated with reference to a hypercompetitive "global economy" from which U.S. citizens may be cut out without adequate preparation; on the other hand, when technology is introduced in section 2 of both excerpts, it is presented in terms of its **possibilities**, as a "driver of change" offering "performance, adaptability and cost-effectiveness" (NETP 2010) and the "vast possibilities of the digital age" and the "marvels of technology" (NETP 2004).

The structure of the larger discursive units of these excerpts, in sum, demonstrate a subtle argumentation in favor of technological change. Simply by placing discussions of educational technology following statements of ongoing educational problems, these excerpts present technology as a reasonable and logical next step, an "everyday" solution to longstanding

problems. Even so, the depiction of technology as ubiquitous in walks of life other than schooling serves to suggest that schools have simply not kept up. In all excerpts, the solution (i.e., effective use of technology in schooling) was presented as a connection between "education" with "everyday life." In excerpt 1, "progressive" school staff were said to be "marrying" technology with the capacities of their students. In excerpt 2, the solution is also presented as a connection, though it is stated as a series of two rhetorical questions:

> Technology can enable transforming education but only if we commit to the change that it will bring to our education system. For example, students come to school with mobile devices that let them **carry the Internet in their pockets** and search the Web for the answers to test questions. While such behavior **traditionally has been viewed** as cheating, with such ubiquitous access to information *is it time to change what and how we teach*? Similarly, *do we ignore the informal learning enabled by technology outside school, or do we create equally engaging and relevant experiences inside school and **blend** the two*? (NETP 2010, p. 4) (emphasis added).

The supposed state of technological development, then, in the "everyday life" of U.S. citizens is not only assumed but is used as a premise in argument that schools should follow suit. The "problem-solution" structure indicated here is given additional force by reference to the everyday functions of digital tools—in this way, the ability of technology to provide solutions to everyday problems is the same as will provide solutions to the problems of schooling.

Contextualization strategies

Where context of texts is referred to in discourse studies, it typically refers to the processes by which texts are implicated in social practices (Blommaert, 2004). The term "context," then, does not simply refer to the places in which a text is read or even the people who read it, but any assumption about the world that becomes important to interpretation of the text. Rather than assuming that contexts exist *a priori*, however, scholarly attention to context has focused more recently on context as a process that exists within discourse, moving from "context" to "contextualization" (see Bauman and Briggs, 1990). This means that the indexical

meaning of texts relies on the interaction of texts with their contexts, and also that the context is constructed from within the text itself. Bauman and Briggs also point out that contextualization is enmeshed in the pursuit of rhetorical aims, so that when texts are viewed as social actions, contexts are not only fluid but also strategic. Opportunities for interpretation of the text are constrained and augmented based on the assumptions about the world, people, and values that are invoked in the text, whether through intertextuality (the mention of other texts or inclusion of other genres or styles, see Fairclough, 2003) or referring to other discourses about the world. The distinction, then, that needs be made to analyze processes of contextualization is between what counts as "text" and what functions as "clues as to how the text should be taken." Here, this distinction is established by separating the principle claims of the above NETP excerpts from those sections that have pragmatically-important functions, such as those parts of the texts (mentions of place, time, activity) that would affect the felicitousness of those claims or otherwise act as support. **With regard to institutional media ideologies, processes of contextualization do not only give a setting for technology, but also give meaning to the roles of actors, timeliness of change, and the values that would sort the good from the bad and the useful from the useless, all while providing sufficient sanctions to enforce those values**; indeed, Phillips, Lawrence & Hardy (2004) remark that "where sanctions are sufficiently robust, an institution exists" (p. 638).

The contextualization strategies in NETP 2004 and 2010 not only establish one or another context so as to give meaning to particular concepts or statements (i.e., "learning" as it is understood within the context of public education as a public good and a civil right), but also augmented the reports' vision for technology use by emphasizing relationships between different domains (work, schooling, home). This may be due to the nature of public institutions, the

assumed role of public education in the United States and the domains of work and new kinds of competition brought about by globalism; or perhaps the interconnectedness of domains brought about by digital technology, as it is often claimed (even though the ability to connect does not mean connectedness, just as access to literacy does not lead inevitably to literacy [Graff, 1997; Clanchy, 2013]). This creation of a contexts of interconnected domains is focused on in this portion of the analysis.

To begin with, each excerpt contextualizes its claim about the efficacy of educational technology in its first section, using an extended "setup" to the introduction of technology as a means to realize a goal or solve a problem (see section 1 of excerpts 1, 2 and 3; also see above analysis of argument structure). In excerpt 1, "A Nation on the Move," the beginning context is set by means of intertextuality, a reference to *A Nation at Risk*, thus establishing a supposed correlation between educational success and a vision of a future:

> Twenty-one years ago, the U.S. Department of Education's National Commission on Excellence in Education published the landmark report, *A Nation at Risk.* It warned that "the educational foundations of our society are being eroded by a rising tide of mediocrity that threatens our very future as a nation and a people." It made the case that students are not being challenged with high quality mathematics and science curricula and many students are not learning the basic skills. A majority of our secondary school students still are not grade-level proficient in reading, mathematics or science. The data for minority students remain alarming. (NEPT, 2004, p. 9).

The world, the nation, and the school are invoked as interrelated contexts in excerpt 1; with reference to "rapidly increasing global competition," along with "educational landscape" and "the field," the interconnectedness of these domains is established not only by their co-occurrence, but with reference to the narrative of *A Nation at Risk*. NETP 2004 creates an unbroken line between 1983 and 2004, such that the "rising tide of mediocrity" has continued unabated. The inference that would lead to its status as a "threat" to "our very future and a nation and a people," however, is notable for its unstated premises. How does mediocrity in schooling

threaten the future of a people? Are they outdone by other nations? This concretizes an institutional history of public education in the United States not only as having a monumental duty to its citizens, but as being categorically unable to meet its duty. The "break in the clouds," however, is not an intervention, but an organic-seeming force of history: "change," it states," "is *in the air*" (p. 9); "…innovation *is occurring*" (p. 9); "…forcing our schools to change and adapt" (p. 9); "As one high schooler put it, 'we have technology in our blood'" (p. 9). The context created here paves the way for non-intervention on the part of the federal government, since change is inevitable and the only seemingly reasonable course of action is to "say 'yes'." Crucially, within the creation of these interconnected domains is an implied relationship between schooling and political life—education is depicted to be at the service of nationhood, whose dominance (or perhaps existence) is threatened by competition from outside its borders. Educational institutions are thusly given an imperative to ameliorate the risks of global competition, thus reinforcing the overall narrative of "education-as-economic-viability" (McIntush, 2000).

In section 1 of excerpt 3, taken from NETP 2010, there are likewise three levels of contexts being created—global, national, and local. Each of these has a specific level of technological advancement but also states a problem in which section 1 establishes 3 separate areas of context, one paragraph for each area. The first paragraph sets a global stage (an "increasingly competitive" world), going next to the national level ("…leadership of the United States in the world…") and ending with the local, wherein is the home and the school, where the true nature of the problem is put in terms of a "disconnect" between students' technology use in school and at home. The first 3 contexts are characterized by their connectedness and their

engaging qualities, whereas the 4th is named a growing "disparity," a "disconnect," from the rest

of the world. Crucially, this connectedness is not cultural, linguistic, or social, but technological:

> Another important context is the **growing disparity** between students' experiences in and out of
> school. Students use computers, mobile devices, and the Internet to create their own **engaging
> learning experiences** outside school and after school hours—experiences that too often are
> radically different from what they are exposed to in school (p. 4)(emphasis added).

"Engaging learning experiences" being the source of the disconnect, the ability of schools to

fulfill their social role of preparation of a future workforce in the face of global competition is

cast strictly in technical terms, so that technological currency is equated with this social role.

Furthermore, of the 4 contexts mentioned here (world, nation, home, and school), the school is

the only one characterized by this disconnect, and is thereby unable to perform its function of

preparing students for the world, since the world is being changed by the very thing that school

has been slow to adopt. In section 1 of both excerpts 1 and 3, the relationships between the

different levels are the very thing that gives normative value—the "should"—to the

technological state of school. See, for example, the two rhetorical questions in section 2 of

excerpt 3:

> While such behavior traditionally has been viewed as cheating, with such ubiquitous
> access to information is it time to change what and how we teach? Similarly, do we
> ignore the informal learning enabled by technology outside school, or do we create
> equally engaging and relevant experiences inside school and blend the two? (NETP 2010,
> p. 4)

The summary of the question and need for change is posited here as the connectedness of

different and hitherto separate domains. The world, it says, is connected by means of technology,

but schools have isolated themselves by their lack of access or unwillingness to access it.

Schools, it is suggested, are "cut off," and need to open themselves up to outside influences. This

connectedness through technology is presented as the very essence of globalization, and it is

precisely this connectedness that schools are not up-to-speed on.

Across these examples, there is a key contextualization strategy based in relationships between domains of life. In these excerpts, the opening narrative portions of the NETPs, the texts address multiple social domains concurrently, emphasizing their interconnectedness. This is perhaps common enough, but, to see how contexts are being created so as to be amenable to arguments for technological change, it must also be asked how these connections become meaningful—answers to these questions, and thusly answers to how the contexts are being constructed, rely on the invocation of other discourses. "Connectedness" takes on specific indexical meanings by means of other discourse about education, nationhood, and globalism. The connection between nation and world, there being an emphasis on competition, is one fraught with risk; the connectedness between nations brought on by technological advancement is at once a potential threat and an opportunity; the connection between citizens (by reference to "nation" and "home") is one of responsibility and shared purpose. How, then, is the school's relationship to this ecology made sense of? If social and technological connectivity is a reality, as is the implication, there is no ability to claim exclusion, making schools into players in national struggles; educational institutions are thusly given a role in a national agenda, a role for which they are deemed ill-equipped, for real "connectedness" is contingent on technological advancement (see especially NETP 2010, pp. 39-50). Indeed, **this very interconnectedness of domains as a contextualization practice also depicts the embeddedness of technology, such that assumptions about interconnectedness are themselves arguments for technological change, in that the interrelationships between the various contexts are supposedly mediated by technology**.

This state of "connectedness" means that the rhetorical construction of domains, far from being isolated, undergirded the media ideologies present in these texts by: situating educational

institutions within other domains in which technology is already embedded; by foregrounding connectedness as a preexisting state; and by using existing discourses on education and globalism to define relationships and obligations between domains. These contextualization strategies in turn foreground an institutional history based in technological backwardness, which, given the present state of social and technological interconnectedness, has left doors open to failure.

Rhetorical strategies: Elision of objects and creation of roles

A brief comparison of the linguistic treatment of students with that of educational staff demonstrates a key strategy in the construction of institutional media ideologies—the elision of objects and the subsequent indirectness of the normative force of that media ideology. This elision takes the form of passive constructions, functionalization and collectivization (see van Leeuwen, 2008) and the use of stative verbs to refer to activities undertaken by those whose practices, attitudes, or beliefs with regard to media and technology are being discussed, analyzed, and prescribed. This process denies agency to specific players, specifically teachers and administrators, who, as it turns out, are also some of the principal "obstacles" to the implementation of a vision of technology use in schools. The rhetorical strategies noted here strategically elide who is making the change, whom it affects, and who has agency to say "yes" or "no" to the change.

Students, in all excerpts, are presented as "tech-savvy" and, notably, are presented as agents with regard to technology use, as seen here in the third paragraph of section 1 in excerpt 2: "Students use computers, mobile devices, and the Internet to create their own engaging learning experiences outside school and after school hours…"; likewise, students are agents with regard to technology use in section 2 of excerpt 3: "…students come to school with mobile

devices…" Technology use by educational staff, however, is presented either in the passive construction or in terms of processes or actions without a stated agent, a process that van Leeuwen (2008) refers to as "functionalization." In the following example, agents are elided by the use of gerund phrases: "Getting students to stay in school is crucial, and equipping them with the skills they need to learn to be successful throughout their lives is equally important" (NETP 2010, p. 4). Here, the gerund phrases "getting students to stay in school" and "equipping them with the skills they need to be successful throughout their lives" act as the subjects, so that the people whose task it is to oversee or ensure such activities as "learning" or "educating" are only referred to indirectly. Indeed, this is a key strategy of the NETPs' arguments for technological change, in that the real object of change is portrayed not as people, but as systems. Teachers, when they are actually named in these reports, are represented not in terms of activities, but of such stative verbs as "understand" or in terms of capacities and the suggestion of lacking "computer literacy." Far more commonly, however, the entire educational enterprise is subsumed under a single category of "learning," such that the actual people involved are subsumed into a single term, which is also the goal of education rather than the process. Simplified, the actual effects and difficulties of technological change are posited in their ends alone, not the processes of that change.

Frequently, actions or activities accomplished by educational staff or institutions are represented using passive constructions. In this example, the agent responsible for "mediocrity" is elided: "(*A Nation at Risk*) made the case that students are not being challenged with high quality mathematics and science curricula and many students are not learning the basic skills" (NETP 2004, p. 9). It is especially notable that, the one time that teachers are not elided using a passive construction or functionalization is in section 3 of excerpt 2, in which students and

teachers are represented as **united in purpose and ability**, the previous paragraph stating the ways that teachers are bridging the gap between their students' abilities and their own practices with regard to digital technology: "Thus, students teachers and technology are driving a return to educational excellence." This example demonstrates, by its selective attribution of agency, the assertion prominent in NETP 2004 that teachers are playing "catchup" to their students.

This rhetorical elision of educational staff has implications for further discourse on educational technology in that participation in technical change is depicted in these passages. The principal obstacles to the sorts of changes being proposed in these reports are not logistical or conceptual, but human. These same obstacles, when they are represented in the texts, are cast differently—they are presented either as human qualities (i.e., as "knowledge" or lack of "commitment") or in terms of capacities; thus, non-compliance with reform agendas appears as "ignorance" or "inability" rather than, for example, "resistance" (which situates non-compliance as a potentially valid choice). These strategies that endow and remove agency are important to note because the people whose agency is being subtly removed from consideration are also some of the primary objects of the media ideologies being presented here: educational staff are not presented as acting subjects, but are represented by their activities and knowledge—that is, by their stated responsibilities and assumed societal role. The argument being made in these reports is indeed one for institutional change, but this change, being largely reliant on the attitudes of stakeholders toward technology, takes the form of individual knowledge. These specific strategies confirm a trend identified in federal discourse by Culp et al. (2003), in which, starting in 1995, teachers begin to appear in federal reports on technology in terms of "lack" of knowledge or expertise rather than as stakeholders within the issue of educational technology.

PART V: CONCLUSION

The goal of this chapter was to investigate the ability of institutional media ideologies to function as "institutional rhetorics" that create and constrain possibilities for discourse on technology. This meant asking, "what are the processes by which institutional media ideologies produce or constrain the production of further discourse on media and technology?" These processes were found to include ways that meaning-making about technology was naturalized in the NETPs, among which were: construing institutional values with technological change by means of binaries (thus also providing a vocabulary by which recipients may refer to other state level or local aims and justify them using the same terms and constellations of values); situating technological change as "natural" given the state of "everyday life"; creating institutional histories, roles, and relationships to the wider world by means of contextualization strategies; and by the systematic elision of key stakeholders from the media ideologies in question. Phillips, Lawrence and Hardy (2004) write that institutions are themselves discursively constituted. "Institutionalization," they write, "occurs as actors interact and come to accept shared definitions of reality, and it is through linguistic processes that definitions of reality are constituted (Berger and Luckmann, 1966)." Technology in these documents (as evidenced in the structure of the arguments, the contextualization processes and rhetorical strategies employed in narrative portions) is cast as a part of national destiny and the fulfillment of a social role—the threat of remaining "cut off" from other domains of life (both physically by being technologically-behind, or socially by refusing to accept the needfulness and primacy of technology in the "21st century") is made to seem a fumbling of public trust.

Characterizing institutional media ideologies as "institutional rhetorics," I argue, is a useful framework for conceptualizing the unique ways that technology is made meaningful in

institutional and organizational settings, the purpose of a rhetoric being to produce and constrain the creation of meaning—not merely the setting out of words or phrases to use, but also institutionalizing ways of making meaning. A rhetoric establishes contexts for allocating value to ways of speaking and statements, and measures of veracity (Berlin, 1984), and the documents under consideration show how meaning is prescribed given a series of preexisting reform goals and set of political aims. The "everyday life" that students are being prepared for is the hyper-competitive, globalized world of work. Media ideologies, in other words, also implicated political ideologies: in the examples used in this chapter, the distribution and approved uses and skills in public schools, foreground uses of technology whose sense of "productivity" are based in neoliberal logics of personal empowerment and preparation for work distributed systems rather than hierarchical management systems (Gee, Lankshear, Hull, 1996).

The NETPs analyzed here are not alone in their optimism about the ability of digital tools to revolutionize work—this is common enough in public discourse on technology. But it is less clear how this optimism becomes seemingly "reasonable" to begin with. In Sims' (2017) ethnographic account of a magnet school in NYC, he describes the oft-unqualified enthusiasm with which educational stakeholders often perceive improvements in digital technology and the effects of bringing such technology into the classroom. In Sims' account, reformers and teachers alike saw technological innovations as means for transforming teaching and education—for example, creating opportunities for student involvement by means of digital platforms or decentering the authority of the teacher and encouraging play. In short, he describes a strangely resilient and widespread belief that, despite drawbacks and shortcomings and even repeated failures of educational intervention projects steeped in technical innovation, unfettered access to technology will solve longstanding problems in education. He asks, specifically, why

technoidealism in education is so resilient, his answer being grounded in the group dynamics of

the staff of the school and the discursive practices by which the figured worlds of the school's

backers and administrators were maintained, including by the ways in which setbacks (i.e.,

reversions to more traditional teaching methods as opposed to game-based pedagogies) are

characterized as "failing forward." It is suggested here that the discourse surrounding education

reform may also provide clues to the resiliency of this optimism—indeed, if the NETPs are

understood within the context of NAR's influence on education reform, "techno-idealism" in

education reform is a well-known story, one that is exceedingly common in the late 1990s

(wherein entrepreneurs used inflated rhetoric to promote online services; see Lowenstein, 2004):

tech-savvy entrepreneurs coming into one or another domain and making it "leaner and meaner"

and more efficient. Indeed, the idea that public schools are "broken" is foregrounded in both

NETPs, such that it is taken for granted that "transformation" of public schools amounts to an

unmitigated good. This effect is not limited merely to the data analyzed in this chapter; according

to a commissioned paper by Culp et al. (2003), federal policy reports, starting in 1995, begin to

see a shift away from the use of technology as tools to solve existing problems toward a more

grandiose emphasis on the "transforming power" of technology, in which the promises of

technological change in education extended far beyond the delivery of information to the

transformation of the entire enterprise. The NETPs, drawing as they are on discourses on

education reform and on discourses of technological progress, function at a broad level to

pronounce and codify technological solutions to problems in education, opening the door to any

number of actors (see Sims, 2017), including educational technology companies, IT experts,

media experts, and consultants, to defend their stake in the process of technological integration.

By depoliticizing educational technology, in other words, the discursive strategies in the NETPs

naturalized the use of technology for personal gain and access of vendors and private interests to students.

Having explored some of the mechanisms by which institutional media ideologies may be perpetuated and "institutionalized," I continue to elaborate the ways that institutional texts create strategic meanings for technology by investigating the ways that media ideologies function on a "smaller" scale, both in terms of the sizes of texts and the audiences for which they are intended.

CHAPTER 3—EDUCATIONAL TECHNOLOGY AS MULTIMODAL CONSTRUCT

PART I: INTRODUCTION: MEDIA IDEOLOGIES AS JUSTIFICATIONS FOR TECHNOLOGICAL CHANGE

Institutional media ideologies, as previously discussed, are not necessarily tied to the philosophies or identities of organizations, but rather refer to myriad processes by which institutions strategically create and coordinate texts about technology use. It was also found in the previous chapter that media ideologies were often subordinate to other goals—for example, the ongoing implementation of "No Child Left Behind." As organizations pursue specific goals, the texts that depict or otherwise support these goals, it stands to reason, will also construct media ideologies that reflect the shifting rhetorical needs of the moment. The construction of institutional media ideologies, in other words, may be considered as part of organizational change in that they may make situated arguments for technological change or for particular uses of that technology.

In this chapter, I narrow my focus, shifting from federal reports to texts authored by a small school district in the U.S. heartland during a period of rapid technological change. Specifically, I take as exemplars two texts that were authored during the planning and implementation of "Project 7," a reform project aimed to transform the district into a "1-to-1" technology district following its being awarded a sizeable federal grant under the Obama Administration's "Race-to-the-Top" (RTTT) scholarship. These generically-disparate institutional texts, rather than addressing a national audience, must navigate the contradictions and organizational complexities of an independent school district as they present and justify Project 7 to stakeholders in the district.

Of these texts, I ask the following questions:

❖ How do these texts function to create media ideologies given the texts' role in supporting the implementation of Project 7?
❖ How are stakeholders (primarily teachers, students, caregivers, staff, and the public) interpolated by these media ideologies?
❖ How are the social practices regarding technology represented and recontextualized in discourse, and how do these discursive practices create media ideologies in context?

By seeking to coordinate answers to the above questions, I also ask how media ideologies appear and function given the rhetorical goals of particular texts. I suggest at the end of this chapter that, at the level of individual texts, media ideologies, by creating situated meanings for technology, may be viewed as "frames" that strategically fold understandings of technology into the rhetorical goals of the text, such that, concurrently, roles are created for stakeholders and social practices implicating technology are recontextualized (i.e., given particularized meanings according to the constraints of the text in which they are embedded). In this way, I argue that the texts excerpted here use particularized media ideologies to support Project 7.

PART II: LITERATURE REVIEW: ORGANIZATIONAL CHANGE AND TECHNOLOGY IN EDUCATIONAL SETTINGS

The role of discourse in organizational change is already well-established in the literature (see Fairclough, 2005), arising principally out of organizational studies with some emphasis on critical discourse analysis (CDA), which focuses on the ways that power (and especially abuse of power) is enacted through the creation and reception of texts. Even though technological updates to tools and infrastructure is commonly featured in the research, there is often only a tertiary emphasis on the meanings and roles technology takes on. Heracleous and Barrett (2001), for example, study the implementation of an electronic insurance placing system in a company and subsequent resistance to this change by stakeholders. Rather than look at the communicative practices of the organization, resistance to outside influence, say the authors, was within the

"deep structure" of the stakeholders' values. In much of the literature coming out of organization studies, furthermore, issues of organizational discourse are approached in a largely pragmatic way, with some authors even going so far as to include a final note to managers that discusses how organizational change may be aided by specific communicative practices (see Heracleous & Barrett, 2001). Cukier *et al.* (2009) conduct a critical discourse analysis (based in the work of Jurgen Habermas) of media discourse about a specific Canadian technology project, looking at the ways that technological products and services were "hyped" in Canadian universities, among which were widespread claims that technology would benefit learning, provide access to information, and prepare students for a technologically-saturated world (p. 186); the authors emphasize that, the claims largely being groundless, the public good was not being served by these public communications put out by universities, technology companies, and news media, and they end the article by calling for more research on the way that "technology discourse is reproduced" (p. 191).

Educational studies of technological integration have been largely based in studying the speed, comprehensiveness, and manner of adoption of new digital platforms and technologies. Amiel *et al*. (2016) suggests that, even though the material conditions of schools indeed affect technology integration in schools, it is largely the "school culture" that predicts the speed and manner of this integration. They present findings that a robust infrastructure did not amount to a particular "pedagogical orientation," a phrase taken to mean the attitude toward and use of information and communication technologies (ICTs) in classrooms; administration and planning, they write, is the most important factor in creating an environment amenable to "use and experimentation" (p. 12). De Koster *et al*. (2011) likewise find that the culture underlying

schools, characterized in the article as either "innovative" or "traditional," also affected how ICT was used, either to augment existing practices or to facilitate more "open-ended" activities.

Previous research, all in all, both in more general organizational contexts as well as in schooling, tends to take a functional view of technology integration. Where there is emphasis on discourse about technology, it tends to focus on whether a particular communicative strategy was amenable to particular organizational ends. I add to this strand of research by taking a more explicitly critical approach to these communicative practices, taking them on their own terms rather than their apparent results. Elaborating the processes by which individual texts make situated, strategic meanings for technology (especially in the service of ongoing technological change) will, I argue, draw needed attention to the ways that stakeholders are persuaded to adopt technological change, especially in public institutions.

Administrative structure of the school district

In order to see how media ideologies of individual texts support technological change at a larger level, it is necessary to look closely at how discourse on technology functions in context. Here, I provide a cursory look at the administrative structure of school districts in the United States. Discourse about technology and the practices in which it is embedded are "localized" within the domain of education, and as such are subsumed within a particular administrative structure and set of values—values which are themselves the site of intense discursive struggle. Whereas organizational change in a relatively hierarchical setting, such as a corporation, may be studied by means of a relatively narrow set of texts (i.e., memos and notifications of policy), change at the level of an entire school district, no matter its size, presents a particular challenge: the administrative complexity as well as the distribution of authority means that change often

comes slowly and unevenly. Indeed, as I discuss next, the history of school districts in the United States bears this out.

The recent history of the independent school district in the United States is complex and rife with political disputes. Meyer, Scott and Strang (1987) note that, as early as the 19th century, school districts were relatively autonomous, relying on their immediate constituents for most of their funding, but have since begun to rely increasingly on official sources, including state and federal funds. Consolidation of districts, however, eventually led to broader oversight and control, by both federal and state standards—a move much belabored in the literature. Howell (2005), unapologetically bemoaning the loss of local control of schools and the rise of educational federalism, likewise remarks that school districts, with their elected members, wield far less power than they once enjoyed; local governance of schools is replaced increasingly with municipal, state and federal guidelines, with school boards themselves often relegated to the role of "compliance officers." Such federal mandates as No Child Left Behind (NCLB) notably demand increased "accountability" from schools and thus increased data flow, both to local governments and to distant ones, as well as demanding newer forms of assessment in the form of increased surveillance and modelling to track student and teacher progress. The USDE official notice of the Race-to-the-Top scholarship (in a similar vein to the NETPs studied in chapter 2 of this dissertation) notably includes as one of its criteria the construction of advanced data-gathering systems which are available to "stakeholders," among which are parents, researchers, and policymakers. Technological integration, here, takes on explicitly political overtones, being a means for increased oversight by official sources.

Currently, governance of school districts is largely restricted to local, elected officials and unelected bureaucrats. Spillane (2016) characterizes the school district as a mediator between

mandates from federal and state authorities and the actual instruction of students; the school

district's function, under this model, is to determine and enforce standards of instruction.

Autonomy of school districts being diverse and relative, the life of a "typical" school district is

one of increasing federal involvement. Whereas before 1980 school districts were only "loosely

affiliated," Mehta (2013) writes, decision-making has consistently moved "up the ladder" away

from local control. This has implications for organizational change, since, as Meyer, Scott and

Strang (1987) suggest, sources of funding (whether federal, state, or local) have a notable effect

on the administrative structure of the district, with external control being an indicator of

increased administrative complexity (p. 186). As Spillane (2016) points out, however, responses

of a school district to official mandates are not monolithic, school districts being complex

institutions with internal contradictions and uneven application of organizational goals and

changes. School districts must navigate multiple and even contradictory constraints (i.e.,

perceived local needs and federal or state policy), and often do not necessarily accept reform

initiatives imposed from without wholesale, but rather interpret policy from within specific

contexts and authority structures as official language is reinterpreted as it passes from national to

local levels.

  Aside from general observations about organizational structure, however, this also has

methodological implications; it means that a school district will not be "complex" in the same

way or will be subject to the same constraints as another and needs to be taken on its own terms

as much as possible. Bijker (1995), writing from within Science and Technology Studies,

likewise remarks that an understanding of the social valences of technology and technological

change needs to involve not only national trends and macro data, but also individual cases. Aside

from logistical issues, this variability, far from being an obstacle to research, is rather an

opportunity to see how organizational aims affect the strategic production of discourse about technology, whether singular and "unified" or various and fragmented. This complexity also means that reform efforts are difficult to enact and enforce because it must be continually understood and ratified at multiple levels, including at that of the school and the individual classroom. In other words, the school district needs to continually produce texts targeting the beliefs of stakeholders. Indeed, this seems to have been well-understood by the staff in this heartland district: in an interview with a local paper, a technical administrator noted that the potential weak link in integration of technology into schools is indeed the staff of individual schools, specifically teachers. Indeed, the implementation of organizational change in schools and especially school districts is complex and often uneven. Given the number of and variety of stakeholders and the complexity of these institutions, furthermore, integration of technical change—including tools for surveillance and new means of assessment of teachers and students—is not value-neutral, and opens up students, staff and teachers to the operations of power even as it "empowers" them with new tools.

This research stands to offer perspectives on the usefulness of the study of media ideologies in processes of technological change and also how communicative practices sanctioned in an organization creates "common sense" understandings of media and technology by means of textual strategies—including linguistic text and film. It is not organizational change *per se* that is at issue here, but rather the types of media ideologies that arise from texts that support organizational change.

PART III: METHODOLOGY AND DATA

Multimodal critical discourse analysis

In this chapter, I approach my data using Multimodal Critical Discourse Analysis (MCDA), as explored and popularized primarily by Gunther Kress and Leo van Leeuwen. Critical discourse analysis (CDA, a term for a larger category of which MCDA is a part) writ large is generally employed to mount critiques of power differentials with regard to communicative practices. The aim of this research, however, is not so much to critique the misuse of power (though the implications of these discursive practices do indeed take this into consideration) but rather to identify the ways that a set of expedient narratives are created in single texts. Language and semiosis more generally, within MCDA, is a social action, so that formal issues of texts as well as their distribution and production are open to ideological analysis. Wodak (2001) characterizes the endeavor thusly: "CL [Critical Linguistics] and CDA may be defined as fundamentally concerned with analyzing opaque as well as transparent structural relationships of dominance, discrimination, power and control as manifested in language" (2). CDA is interested, in other words, in questions of social inequality and with questions of ideology. It is the latter point that this study is primarily interested in. In analyzing the processes by which a localized "commonsense" understanding of technology is created in texts implicating technological change in the school district, CDA is positioned as a convenient and useful tool.

Given that the aim of this study is to discover means by which ideologies (characteristic ways of thinking or acting, the "commonsense," of a particular group; see Zhang Waring, 2018, p. 181) are created by means of discourse, I use an analytical framework espoused in van Leeuwen's *Discourse and Practice* (2008) to analyze exemplars of institutional texts with regard to the ways that they present and justify social practices, which thereby encourage the tacit creation of political meanings. Among the myriad ways that ideology is created, one of the

primary ways is through the representation of social practice—the making of "commonsense" and representative ways of thinking. Primary to the usefulness of van Leeuwen's method is the primacy of practice in the study of the ways that the production, distribution, and reception of groups of texts affect the meanings of social life. Notably, this includes multimodal elements, including images, music, text, and sound. Whereas much of the work in critical discourse analysis has focused on written texts, there is also a growing body of work that focuses on multimodal, digital texts. In this chapter, the second piece of data is a public video, and as such it is parsed not only according to linguistic elements but also visual and auditory modes (including music). In keeping with this idea, the different modes at use in these texts are analyzed as to their function and coordination, since each mode affords new possibilities for the creation of media ideologies.

In this particular approach to CDA, analysis focuses on the ways that a text depicts social practices, either by specific rhetorical moves, inclusion of other discourses and styles, linguistic framing, metaphor, or the inclusion/exclusion of voices. A text's function and its structure, as such, form a complex interplay of semiotic resources, such that a single sentence may serve a number of different functions depending on the context and who is reading it. (Take, for example, the sentence "our children are the future"; a parent reads it and perhaps thinks about the quality and efficacy of their parenting, or perhaps about environmental concerns and their own consumption habits, whereas a teacher thinks, barring family responsibilities, of their students and their own work.) As such, careful awareness of the context is key to an understanding of the function of a piece of discourse. Furthermore, MCDA examines all of the semiotic resources entailed in a discursive text instead of limiting the examination to linguistic elements, such as grammar and register. Roderick (2016) writes that no single mode takes precedent over another

and, notably, modes may complement each other so as to encourage the making of unique meanings. In texts that are multimodal, the visual, textual, and auditory elements are considered both as separate resources in the furtherance of the text's aim as well as complementary resources.

This approach to CDA is also especially useful for the study of media ideologies. By focusing on the nexus of discourse and practice, discourse (and indeed all texts) is treated in turn as a representation ("recontextualization" i.e., recapitulation in new circumstances) of social practice. In other words, discourse "draws on, and transforms social practice" (van Leeuwen 2008 p. 5) as the values and constraints of one or another semiotic form or context finds its way into the resources by which a practice is "incited into discourse." A poster showing the correct way to wear a surgical mask, for example, contains several different social practices arranged into a hierarchy which in turn inform each other: the act of correctly (or incorrectly) wearing a surgical mask is recontextualized within another social practice, the publication of a public advisory; as such, the pictures are meant to be interpreted as a mandate or statement of best practice. Representation of social practices, van Leeuwen continues, are not the social practices themselves, but are rather commenting on the meaning of them and creating conditions by which these actions may be interpreted (p. 5). A text showing the proper way to wear a surgical mask by demonstrating some of the wrong ways to wear it is not actually defending anyone against COVID-19 or any other respiratory disease, but is rather creating meanings for different typical ways of noncompliance. It functions to define noncompliance and identify it as "wrong," not simply as "almost right" or as a set of alternative ways of wearing a mask. This type of analysis asks how social practices are portrayed and the discursive means by which they are recontextualized. For example, by putting the social practice "organizational change" alongside

"using a computer" while also embedded in the social practice "teaching," technology comes to have a specific and assumed role in the educational enterprise; it becomes inserted into everyday practice *de facto*. As technology, then, is "incited into discourse," it is given social meanings, such that the representation of actors, action, time and space also place continually ascribe meaning to social practices, including other texts. This process, furthermore, may happen repeatedly. Applied to the study of media ideologies, the primary means by which technology becomes meaningful is in the way that technology is recontextualized—by being placed within the context of specific actors, times, places, and activities, it is given a particular social valence and its uses delineated. Indeed, media ideologies as a discursive process is here articulated as the very process that van Leeuwen (2008) describes, discourse as the "recontextualization of social practice."

I argue that, given that technology is given localized meanings by means of its recontextualization in social practice, the media ideologies present in locally-produced texts can be fruitfully analyzed in terms of the transformations that occur when this recontextualization happens. The values or aims encoded in the recontextualizing practice (i.e., writing a proposal for technology rollout, inviting teachers to participate in training) will affect the way that other practices (buying technology for a school district, teaching, school reform) are portrayed. In what follows, the texts are analyzed with attention on the representation of social practices which implicate technology, beginning with the ways that some social practices are embedded in others, and the ways that these social practices are represented using rhetorical choices that strategically transform them, with the end result that they communicate a specific meaning for technology—that is, function as a media ideology. I give special attention, then, to representations of technology use of students, teachers, and the public. By seeing how

technology is recontextualized within the social practices present in the texts, I analyze and critique the media ideologies underlying these representations.

The Data

The corpus for this chapter consists of two texts that supported the various aims associated with Project 7, the "1-to-1 technology" initiative in the school district. They represent distinct aims, genres, audiences, and modes, and yet they are highly rhetorical, justifying and solidifying aims, garnering support, and informing stakeholders of the meaningfulness of changes brought about by technology. These texts are "naturally occurring" in that they are themselves social actions oriented to specific needs associated with organizational change, whether "transparency," public relations, or legitimizing.

In addition to these data's "local" provenance, their exigence arises out of a particular moment in which technological change is front-and-center within larger district-wide reform efforts. These communications having originated from within the administrative offices of the school district, these texts are not taken as objective reports on the goings on, but as strategic— that is, as justification of organizational changes to various stakeholders. These texts are not taken, in other words, as objective descriptions of organizational change, but rather as "discourse-about-organizational-change." Ferguson (1994) remarks that the discourse surrounding planning of interventions (humanitarian, developmental) is often incongruous with actual (and among insiders, even expected) outcomes, but this does not mean that interventions are unavoidably "failures," only that the stated aims are not the entire story. These texts, therefore, are studied as acting on the world in the interest of furthering project 7 through the production of media ideologies.

The two points of data are made up of two different multimodal texts: **a logistical presentation covering the "one-to-one technology" rollout presented by the head of technology in the district to the overseer of Race-to-the-Top (RTTT) implementation; and a YouTube video created by the school district's communications department for the public covering the progress over the first year of the RTTT grant.** The presentation was prepared in the first weeks of 2014 by the head of the technology department and is addressed to the head of the RTTT committee, who was responsible for submitting regular reports to the superintendent during the process of reforms in the school district. The proposal sets out a detailed plan for the rollout of the 1-to-1 technology, including types of devices, ways to establish technical support and teacher training, and details of the assessment system for implementing digital tools in classrooms. (In the years following the presentation, the yearly reports follow these principles outlined in this presentation fairly closely, though it elaborates the specific needs as they develop over time, indicating that the content of the presentation was integrated fairly consistently into the school district's technological integration efforts. The overall vision of the presentation, couched in the language of educational outcomes, is stated thusly: "To utilize RTTD funds for P7 to increase the quality of instruction and improve student achievement at (school district)." The YouTube video, published near the end of 2014 (the first year of the RTTT reforms) is addressed to the public, covering the progress of various RTTT reform efforts, including a lengthy segment on technology integration. During the first year of the RTTT disbursements, the district put out a series of YouTube videos, including an introduction to the grant published early in the year, a video focusing on related goals for instruction, and then a retrospective at the end of the first year.

Social context to data: Federal Grants and School reform

Before turning to the analysis of the two documents produced by the school district, I establish the context underlying the reforms that the documents support, beginning with the federal grant program that instigated it and the district's implementation of the reforms, especially the production of written material and measures accountability.

The Race-to-the-Top (RTTT) Grant.

Here I describe the grant that prompted the reform efforts under consideration. This is because the grant is not a *carte blanche* but a rigorously overseen set of goals which are mandated by federal sources and which are aligned with a specific set of goals, many of which are discussed in chapter 2, including extension of data gathering and surveillance in public schools in the interest of "accountability." Even though there is little indication in the textual data analyzed in this chapter that the various projects enter into a contested arena of political aims, the reforms enacted in the district, especially technological ones, are indeed political in nature—they involve the acceptance of federal influence into schools and increased oversight of the activities of teachers, administrators, and students.

In November of 2009, following the passing of the American Recovery and Investment Act, the Obama Administration announced a new competitive educational grant called "Race to the Top" (RTTT)." A total of $4.35 billion was allocated. According to the official release, the grant's aim was

> to encourage and reward States that are creating the conditions for education innovation and reform; achieving significant improvement in student outcomes, including making substantial gains in student achievement, closing achievement gaps, improving high school graduation rates, and ensuring student preparation for success in college and careers; and implementing ambitious plans in four core education reform areas: Adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy; Building data systems that measure student growth and success, and inform teachers and principals about how they can improve

> instruction; Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most; and Turning around our lowest-achieving schools (USDE 2009).

In a 2010 speech, Obama also indicated that this highly competitive grant was intended to encourage "ground-up thinking" among states, districts and schools so as to provide working models that may then inform further work—exemplars of needed "innovation" in schools. States as well as school districts were eligible to apply for the grant, even though several states acted to block districts within their borders from applying—on one occasion, Barack Obama specifically named states and called on them to back down.

If official channels are taken at face-value, it would appear as though the aims are not reasonably contestable, with reform efforts being tied so effortlessly to student outcomes like "college readiness" and "innovation." Educational policy in the United States, however, is a site of intense discursive struggle; rhetoric and stated aims aside, RTTT was not a politically-neutral "no-strings-attached" affair; acceptance of the funds also involved the adoption of federally-mandated reforms, including vastly increased oversight of teacher performance and standardized testing, itself a dubious proposition to many parents and educators. Overwhelmingly, widely-available forms of coverage of the grant came from official channels, including state and federal press releases. Criticism of the RTTT scholarship was largely restricted to specialized journals, blogs and publications by special interest groups—national press, likewise, tended not to entertain challenges to RTTT, while *The Christian Science Monitor* frequently featured dissenting views. A 2015 article in *Politico New York* covering the implementation of RTTT reforms in New York reports how, during the rollout, a lack of transparency led to a crisis of confidence among teachers' unions and "parent groups" about the efficacy of the reforms, such that these groups were pitted against educational officials in the state. Resistance to the changes,

according to officials cited in the article, arose in response to a brazen unilateral approach to change without adequate communication; but the increased emphasis on standardized testing and the link to teacher evaluations was the main grievance cited in the article. In those channels wherein federal "overreach" is problematized, critics frequently refer to RTTT as a sort of Faustian tradeoff, with recipients trading off autonomy for funding.

The reforms in the school district wherein I collected my data, in sum, are largely restricted in aim because of the federal sources of funding, including adoption of the Common Core. The stipulations of the RTTT grant give insight into the broader federal agenda for encouraging technological change in public schools, but not necessarily into the meanings of educational technology for actual schools or school districts. In other words, the recipients of the scholarship would not necessarily see their reforms in terms of the larger, tacit aims that underlie much of federal discourse on education reform, but in terms of educational outcomes. Indeed, the surveilling applications of technology are absent from publicly available material produced by the school district—rather, learning outcomes and organizational goals receive far more attention.

The rhetorical situation: Implementation of "Project 7".

The district's across-the-board implementation of classroom technology, with the eventual goal of becoming a "1-to-1 district," dominated the reform agenda from the very first both in terms of funding and vastness of the effort. 69.3% of the total funds allotted for reform in the district went to "Project 7," which was simply titled "technology." The technological overhaul lasted the full 4 years of the grant's disbursement and involved the creation of new appointments, professional development initiatives, and extensive spending on digital tools for classrooms and students. The rollout itself, however, faced a number of difficulties in adoption

and spread of best practices regarding classroom technology, since schools retained a degree of autonomy over instruction and teaching and assessment practices. The district made tools available, but initially saw limited or largely ineffectual use, based on archived reports. What this means is that the school district needed to encourage adoption rather than mandate it—what would in a more constrained system be a matter of top-down change here was a rhetorical task. This means that the texts that implicate, prescribe, or even describe technological change in the district are effectively serving "double-duty" by contributing to the overall cultural conditions that make technology meaningful while also promoting a vision of technology use that supports this aim.

The school district in question consists of nearly 20 schools that are overseen in terms of compliance and management by a central office located in that district. In the past decades, what has been an overwhelmingly white, working-class city has fast become one of the most diverse in its state in terms of cultures, ethnicities, and languages. 53% of students in the district, as of 2018, qualified for a free or reduced lunch, a rough indicator of the level of poverty in the district, the total population of the city being roughly 80,000 (U.S. Census Bureau). Census data from the same time period, however, places only around 20% of "persons below poverty line," but this is itself open to debate, due to common and endemic underrepresentation of minority groups in official reporting; the district stated the poverty figure of the district at 70% in a grant proposal. 50% of children 5-17 spoke a language other than English at home (nces.ed.gov). In response to a growing diversity of cultural and linguistic needs, the district responded with a number of initiatives meant to engage minority communities, including by means of written material (Micronesian and Spanish translations of school websites, documents, and social media feeds) as well as community liaisons and coordinators.

In 2013, the school district applied for a RTTT grant—a second attempt. In the narrative portions of the application, coming in at over 1,700 pages, the diversity of the district is touted as the main reason for advancement or reform, the authors saying that, because of increasing diversity, "the old ways of doing business"—a common trope employed in the justification for the adoption of cutting-edge digital technology (see chapter 2 for an analysis of this trope)—will not serve the shifting needs of the district. In addition to demonstrating previous reform efforts (extensively documented), the reviewing committee is assured that the district is sufficiently autonomous and that the state legislature—which is decidedly politically conservative—won't interfere with federal mandated reform outlined in the grant, also noting that the Common Core is already implemented in the district. The application is replete with technical specifications of the reform plans, statistics detailing demographic information and academic achievement, as well as numerous letters of support from members of the community—local politicians, business leaders, and prominent individuals.

The USDE accepted the application and awarded the school district nearly 26 million dollars to spend on specific reform efforts in the district. The news was greeted enthusiastically by the district itself as well as the local press, with no hint of dissent obvious in any widely available publication. The program having been set out in detail in the application to the USDE, the district threw itself into the effort, putting wheels on a total of 12 separate reform projects designed to, according to a pamphlet distributed at a public informational meeting, "prepare […] all students to be college and career ready through personalized learning design." Included in the projects were such items as implementing "seat time waivers" and providing personalized learning plans for students in its schools. Indeed, the superintendent, in a public letter at the start

of year 2 of the grant, referred to personalized learning as the "overarching outcome" of the RTTT grant.

Whatever the stated aims, the budget breakdowns of each year are themselves notable for their emphasis on technology acquisition and integration. The projected budget for Project 7 was overwhelmingly larger than the others. Of the total 26 million dollars awarded, nearly 18 million was allotted to "Technology acquisition and integration," 69.3% of the total funds. When each year's expenses were tallied up in public reports, Project 7 took the lion's share of the funding: 78% of the total disbursements for the second year, 51% in the third, around 50% in the fourth, and 46% in the fifth and final year. The expenses themselves were carefully overseen and itemized, including: infrastructure, devices for students, technology stations for classrooms; as well as staff, including experts on technology integration into schools, IT experts, and support staff. The more concrete goals of Project 7 were stated as follows: to reach a 1:1 ratio of personal device to students in the district; to build in professional development of teachers focusing on integration of technology into classrooms; to build in "personalized learning options" including self-paced options; and also to track student achievement more accurately. The district acquired the devices fairly quickly but continued in its professional development initiatives right up until the final year of the grant (the stated goal of the initial proposal was to have every teacher in the district go through professional development in classroom technology by the final year of the grant's disbursement).

The 1-to-1 initiative envisioned by Project 7 is multifaceted but may be summarized in 3 points: the acquisition, maintenance, and proper use of technology in the district are all covered in the proposal as well as the promotion of best practices. Acquisition, training and support were all pursued concurrently, with the coveted "1:1" ratio being achieved in the 3rd year of the grant,

with additional devices and equipment being bought as enrollment grew and dedicated spaces became more available. Professional development took on new forms across the 4 years of the grant's disbursement, including summer training modules; infrastructure was developed and adjusted as needs changed, including the introduction of wi-fi to the district's school buses. Following the awarding of the grant, a dedicated department was created in the district to aid in the integration of technology into the classroom and to aid curriculum services. Professional development of teachers and institutional support in general was organized and facilitated by this new office. The ICT integration specialists arranged for training for teachers in the district in various platforms. Each summer, for example, in the 2nd, 3rd and 4th years of the grant disbursement, the office conducted focused workshops for teachers focusing on the uses of classroom technology. Keynote speakers and workshops are designed to develop teachers' proficiencies in various areas. Attendance, however, was a logistical and administrative issue. Of the thousands of teachers in the district, only around 700 at a time attended the summer training courses, according to the yearly reports. One of the key obstacles to the effective and continuing pursuit of the "1:1 district" vision became the lackluster involvement of teachers in professional development.

Internal research from within the district, which was included in the archived material, however much emphasis was placed on access to technology, found that middle school teachers in the district were not using digital tools provided them. The research was focused practically on how to increase attendance in training and found that teachers who received video invitations in addition to email invitations were more likely to attend the training; the research also noted the various reasons that teachers were not using the platform provided them. Recommendations included creating a user group that would promote best practices and provide information on the

platform. But the main concern is how to promote training in such a way that teachers will attend it—this included personalized emails as well as suggesting that school principals should be the ones to invite teachers or to otherwise promote the technology training.

The combination of loosely-affiliated schools, autonomy of teachers, and the suggestion of entrenched attitudes toward technology by teachers mean that the 1:1 technology project was as much an issue of affecting stakeholder attitudes toward technology as integrating it. In other words, the texts themselves are working to support the project by contributing to the localized discourses (semiotic resources) by which technology may become meaningful.

In addition to buy-in of staff, the assent and support of the community was also primary to the reform efforts and was garnered by public meetings, press releases, articles, and reports to the school board. This commitment to public support was apparent in the application for the grant (which included dozens of letters of support from prominent citizens) as well as the extensive archived material.

This social context makes for a particularly interesting rhetorical situation. The wide range of stakeholders and attitudes meant that there was a continuous stream of discourse to the public and to staff about the RTTT grant and its use, but the actions legitimized and justified are not entirely "free," in that the decisions about spending are not open to public scrutiny in the sense that members of the public may have input, the details of spending being decided in advance and rigorously overseen by federal authorities. The public is brought on-board with public-facing texts and promotions while being precluded from involvement—they are cast as an "audience" to the goings on rather than direct participants. The goals of Project 7 may have been largely couched in logistical terms, but the texts under analysis here demonstrate that Project 7 is as much a rhetorical project as a technical one—media ideologies amenable to the aims of the

project are created by key texts and tailored to the particular needs of the moment. The success

of the project meant training staff and students in proper uses of technology and keeping the

public informed on the role of technology in instruction.

PART IV: DISCURSIVE ANALYSIS OF MULTIMODAL PRESENTATIONS OF TECHNOLOGY

Analysis of Administrative Presentation - A plan for one-to-one technology integration

This presentation was provided to the manager of the RTTT reforms in the district and

was delivered just after the start of 2014. It is not clear from this document whether or not the

speaker, when he delivered this presentation, used the document as a script or merely as a

prompt, but the comprehensiveness of the text suggests that it was delivered as the former. The

sections excerpted for this analysis are among the more detailed in the presentation: excerpt 1 is

an outline and rationale for professional development at the different levels of teaching; and

excerpt 2 addresses a strategy for engaging the community meaningfully regarding the 1-to-1

technology shift. The redaction of proper names of individuals and the names of programs are

indicated with "XXX." These excerpts are presented below with analysis following.

Excerpt 1: "Professional Development"

1. Professional development for an initiative of this magnitude cannot be an
2. afterthought. Teachers cannot effectively use any tool to increase the quality of
3. instruction without proper training and technology is certainly no exception.
4. (Paragraph break)
5. Technology is used differently at different grade levels. Based on this realization, the
6. professional development must be differentiated to prepare teachers for best practice
7. based upon the grade level(s) they teach.
8. (Paragraph break)
9. In grades K-2, the professional development should be focused around which apps
10. to use to help students based on the student's individual need.
11. (Paragraph break)

12. In grades 3-8, the professional development should be focused on the XXX
13. methodology of technology enhanced instruction. XXX is believed to be the best
14. choice because of the success (school district) has enjoyed in its long history with the XXX
15. program. Many teachers across the district are trained in this model. (High school) is
16. undergoing job-embedded PD using a variation called XXX. This program has
17. been beneficial to technology integration at (high school). (High school 2) will have
18. teacher trained in XXX at the conclusion of the school year. Many other schools
19. have XXX at the conclusion of the school year. Many other schools have XXX
20. trained teachers and the feedback from teachers and principals is outstanding. XXX
21. is a two-year program based on the day of PD each month. The XXX cohort
22. facilitator supports teachers through the classroom visits, planning, problem solving,
23. and face-to-face training. XXX PD has been included in the RTTD grant. One or two
24. of the four technology integration specialists that are funded by the RTTD grant
25. would best deliver this.
26. (Paragraph break)
27. In grades 9-12, the professional development should be focused on enabling students
28. to use the technology to deepen their understanding, research, and creatively express
29. competency by using a PD model that closely couples the technology with the
30. curriculum. A (state) assistant principal and author recently published a book that
31. correlates Good Apps and the Common Core. Chromebooks utilize Google Apps as
32. their primary pieces of software. PD based around these concepts would fit will in
33. these grade levels. One or two of the four technology integration specialists that are
34. funded by the RTTD grant would deliver this.

Excerpt 2 - "**Community support**"

1. It is imperative that parents, businesses, and the community at large understand the
2. role that technology plays in the classroom. Computers and tablets are used for
3. recreation and entertainment in the home. Certainly, our society has
4. embraced this use to its fullest. However, in school, these devices will be used as
5. learning tools, admittedly highly-engaging tools, but these devices are not for the
6. purpose of entertainment or pacifying students throughout the day.
7. (Paragraph break)
8. Specific examples of how devices are used at each of the grade bands explained in
9. the PD section above, should be shared in a very public way to front-load our patrons
10. with correct information about the use of these devices.

Analysis and Discussion of Excerpts from Internal Presentation

These excerpts are characterized by what van Leeuwen (2008) refers to as "technological means-end construction of purpose" by construing outcomes with tools. The document's point being a proposal of a logistical rollout, the goals of the change (i.e., enhancing student learning; buying devices; maintaining devices and infrastructure; hiring staff to aid in implementation) are straightforward, but the author elaborates the means at length and with notably little justification. Overall, the author does not emphasize the value of technology for schooling typical in public discourse on educational technology, the discussion of goals taking only a few paragraphs early in the presentation, but rather focuses space on proposing a sustainable program for the distribution and maintenance of district-issued devices.

Recontextualization Chain.

In the below diagram, the various social practices present in both excerpts are set out, with special emphasis on the training of teachers and the public relations goals of the 1:1 technology shift. Here, for the sake of clarity, actors and means are also included in the diagram.

Semiotic practice: Proposal

- School district implements organizational change to 1:1 Technology District
  - School district trains teachers by means of curriculum specialists and tiered training
    - Teachers use technology to manage and augment instruction
      - Students use educational technology according to age range
      - Students use technology for leisure and entertainment
    - School district informs public about educational technology
      - Public uses classroom-based technology appropriately
        - Public uses technology for entertainment and leisure

At each level, according to van Leeuwen, the social practices represented in the text are "filtered" through the node above them so that the aims and even assumptions present in one practice will affect the presentation of others. Organizational change, for example, is presented in terms of a proposal (i.e., the entire document), as a set of recommendations and justifications for those recommendations (see excerpt 1 lines 9, 12, and 27)—each section is set in the conditional mood, such that the author speaks about change as a "should," not as a sure thing. Also of special importance here is that even though the author posits the overall goal as an instructional one, teaching and learning by means of digital technology are not independent variables—in other words, meaningful changes in the process of "learning" in the district is predicated on a successful transition. The outcome of the implementation is implied in lines 27-30:

27. In grades 9-12, the professional development should be focused on enabling students
28. to use the technology to deepen their understanding, research, and creatively express
29. competency by using a PD model that closely couples the technology with the
30. curriculum.

In this excerpt, the third level of social practices , at which the 1:1 shift is assumed to affect the practices of teachers and students, is the assumed "ripple" effect of the 1:1 shift—students will be more engaged, teachers more in control, and achievement higher, since teachers will have training (see "Professional Development,") the public will have correct knowledge about the use of school-issued devices (see "Community Support"), and students will use devices according to their age, with increasing creativity and control over outcomes. In this way, the aims of the document come to affect how technology is shown to be integrated into social practices. Overall, the emphasis on logistics in these excerpts means that the text emphasizes access to devices and support while taking educational outcomes for granted. Qualitative results are subordinate, by virtue of the fact that the document itself is a proposal, to logistical considerations. (It is not that instruction is an afterthought in the author's mind, but that a

successful proposal supersedes successful instruction, as it is portrayed in the excerpt.) Here is what this means for the analysis: the aims of the document being a cogent proposal and successful experiences of users, the media ideologies present here are largely entwined with the details of the program—that is, "good uses" of technology are presented as those that are in step with the proposed rollout. Indeed, the fact that the rollout is being proposed in written form at all presupposes that the author is arguing for the efficacy and goodness of their proposal—but the means by which the author argues for these changes are based in the design's ability to be managed from above and maintained. It is not merely particular uses of technology that are argued for, but primarily that technology should be used in such a way that it is predictable and governable from the offices of the school district. The media ideologies present here, then, are not endowing positive value on particular uses so much as arguing for the authority of the district offices. Technology—so goes the tacit argument—needs to be governable and controllable.

This contextualization chain is particularly useful for visualizing representation of technology use in-context: the actual uses of technology by teachers and students occur only in the second or third level of representation, with use following implementation and training; the depicted uses of technology, in other words, seem to be predicated on the organizational changes and rhetorical goals stated in the proposal. Justification is not happening merely at the linguistic level, but also above the sentence, including paragraphs, sections and entire texts.

Transformations: Teachers, students, and technology use.

In these excerpts, social practices pertaining to educational technology are transformed along the nodes of the recontextualization chain, such that the meanings of practices of teachers and students are affected according to the aims and generic constraints of the document. The first

two paragraphs of "Excerpt 1: Professional Development" justify the descriptions of needed

training in each area (K-2, 3-8, 9-12), and provides a justification which merits further analysis

because of its assumption about students:

1. Professional development for an initiative of this magnitude cannot be an
2. afterthought. Teachers cannot effectively use any tool to increase the quality of
3. instruction without proper training and technology is certainly no exception.
4. (Paragraph break)
5. Technology is used differently at different grade levels. Based on this realization, the
6. professional development must be differentiated to prepare teachers for best practice
7. based upon the grade level(s) they teach.

Of special interest in this excerpt is the phrase "technology is used differently at different grade

levels" in line 5. The author makes a statement about "proper training," but is doing so in the

passive voice, without any logical subject. Technology is put as an educational tool to be

scaffolded as a part of curriculum—technology is seen here in terms of specific affordances,

which can be controlled. The sentence "Technology is used differently at different grade levels"

at once prescribes and naturalizes a view of technology use which foregrounds the need for

programmatic control. By equating media use with age, especially in such a way that students are

allowed more creativity and control the older they get, the author justifies a programmatic choice

in seemingly "natural" terms, that is, by suggesting that the capacity of children to use

technology usefully increases with age. Whether this is a statement about child development or

about an organizational choice is less clear, and this may well be the point.

The subject "professional development" is treated in excerpt 1 as an intervention on

teachers' uses of technology. The training, first of all, focuses entirely on what should be

learned—what teachers need to know to use classroom technology. Use of digital tools is

conceived of, then, as a matter of simply learning to use it, such that "use" is uniform by

implication. The knowledge provided by the school district on technology use is made to seem a

prerequisite for the use of classroom technology, such that the success of the program is subtly made to rest on the ability to regularize teacher use of classroom technology.

It is not only the technology use of teachers that is addressed in this internal presentation. The ways that students use technology, in this excerpt, is also a key factor in the rhetorical construction of media ideologies. Take, for example, the description in excerpt 2, "Community support," of student technology use:

2 […] Computers and tablets are used
3 for recreation and entertainment in the home. Certainly, our society has embraced
4 this use to its fullest. However, in school, these devices will be used as learning
5 tools, admittedly highly-engaging tools, but these devices are not for the purpose of
6 entertainment or pacifying students throughout the day.

In this excerpt, there is an argument, though tacit, about the uses of technology in schooling that, elaborated, will give insight to the ways that domain functions in the construction of media ideologies. Briefly, the comparison of the school and the home in lines 4-6 functions to establish the domain of "schooling," and thereby makes a tacit argument that technology use in school is more formative and thereby more legitimate, based on the assumption that since "learning" happens in school, technology, being also in the school, also is used for learning. An assumed dichotomy between media use in school and media use outside of school underlies the argument: "learning" is juxtaposed with "recreation and entertainment," but with reference only to the places and times of day in which technology is used: "in the home" is equated with passivity. How is it that tech use at home is portrayed as passive consumption, but tech use in school does not even need to be named? What is assumed about how technology will be used in school, and how does this technology function?

In these excerpts from the presentation, the establishment of a domain (school vs. home) functions as a discursive resource giving situated meanings to the uses of technology.

Technology use in school is assumed to be formative in the sense that time is imparting

something useful to students, whereas use in home is merely "recreational." The functional

assumption underlying this comparison of school and home, then, is that tech use in school

should be of more lasting use to students, but, given the rhetorical goals of the document, this has

to do with the place and time it is used and under whose supervision it proceeds, not the practices

themselves or their outcomes. Good technology use, ultimately, is equated with technology use

in school.

Media Ideologies in "One-to-one Technology Initiative": Iterability and manageability.

When media ideologies are set out as statements, they are the functional assumptions

about technology and the context that give value to one or another set of practices implementing

technology or media. The proper uses of classroom technology, in this presentation, are not set

out in exhaustive detail, but, by their recontextualization into a district-wide reform effort, they

are depicted primarily as a repeatable, uniform, scaffolded, managed set of practices.

The media ideologies present in this first piece of data may arguably be referred to as the

"pedagogization" of technology, in that the uses of technology are not so much delineated so

much as much the ability of the school district to oversee them. Practices are not mandated;

rather, a "program" is proposed by which practices would be continually assessed. The only

direct mention of proper use is indicated by the phrases "for educational use," for "learning," and

"scaffolded according to age." The use of digital tools is "pedagogized" in the sense that

technology use is subordinated to the need to enforce curriculum and standards in the district;

conceptualization of technology is thereby folded into the needs of an educational program.

Given the school district's role in the establishing of curriculum goals all the while gently encouraging teachers to implement technology into instruction, this is to be expected.

The arguments for the rollout, situated as they are in a proposal for a "philosophical and logistical description" of a 1-to-1 technology rollout, are based in a dichotomous view of technology in schools and out of schools. The use of technology in schools is assumed to have a specific meaning not because of the aims of the practices, but because of where they are taking place—the school. The strategies by which media ideologies are constructed involve tacit invocation of school/home dichotomies and also the meaningfulness of schoolwork. The media ideologies elaborated here, albeit tacitly, are for a specific type of "supervised use" of technology. The use of technology is all recontextualized within the processes of management of students, the public, and teachers. The "should" that accompanies descriptions of technology and technology use, then, is one of control and ease of control. Obstacles remain to this change, however; teachers may be resistant, and the public may have wrong ideas about educational uses of technology; thus, the proposal directly mentions how the attitudes and knowledge of stakeholders are a primary concern for success of the program, even though details are not offered.

Here, the media ideologies derive from the transformations occurring during the recontextualization of social practices. This is not based in "wrong ideas" about education, a quashing of creativity, or an unreasonable need for control—these media ideologies are a product of the recontextualization processes of practices making use of technology as they are presented in this institutional text. Given that the author is the head of the district's technology department and the recipient is an official overseeing RTTT implementations, the media ideologies present in this text privilege practices that are **uniform**. This emphasis on manageability, both for the

uses of teachers and of students, also means that the text does not acknowledge previously-existing capacities, knowledge, nor the usefulness of technology use outside the school—it is a "ground-up" approach, assuming that teachers and students must be taught entirely new ways of using media, and thus foregrounding the need for iterability and rigorous oversight with regard to the use of digital tools.

Analysis and Discussion of YouTube Video: Year 1 recap

Whereas the presentation above was largely intended to remain internal, the YouTube video was created as a piece of "outward" communication, meant to put ongoing reform efforts in a positive light and garner public support. (The video, having been published on YouTube, is public, but the URL has not been included here, in order to protect the privacy of the school district). The video's aim, being directed to the local public—parents, students, and those with relevant interest in the goings-on of the school district—is arguably to demonstrate that RTTT funds were used, during the first year, in a meaningful and responsible way. Given the emphases in the video, the question being answered was "what does this reform have to do with students and with learning?" At only 4 minutes long, the video covers 5 projects, with only 2 of them given space for interviews and footage, such that the other 3 are described verbally by the superintendent without the testimony of teachers, students, or staff; the first and longest segment, technological change in the schools covers just over a minute (00:37 – 1:45); however, this is not the extent to which technology is featured, for in the background footage of the first segment, as staff and students talk in the foreground, 16 shots out of 26 total shots depict technology in use. The longer "Year 1 Recap" video consists of 3 discrete sections punctuated by title screens: an

introduction, a section on project 7, and a section on student conferences. This second section, focusing on technology integration, I excerpt below for further study.

In the following sections, I examine how the different modes present in the video (linguistic, visual, auditory), in terms of their individual affordances as well as their recombinant elements, establish and support public-facing media ideologies by recontextualizing classroom practices into the larger practices present in the video. Music, background footage, and testimonials combine into a relatively seamless "celebration" of technological change in the district while also managing to justify the changes and the right of the school district to make those decisions—thereby envisioning a passive role for the public. In the transcript below, I have included the content of the interview along with the role and function of the speaker in the left-hand column, with the right-hand column listing the background shots that roll during the various interviews.

Section introduction: no voice, upbeat music (125 BPM, electric guitar driven, lively trap kit). Pacing of background shots is fast, about 3 seconds, changing on-time with downbeat of music.	1. Slow panning right: white male student at computer using engineering software; schematic of industrial component visible on screen. 2. Two white hands adorned with blue watch and pink arm band assembling a metal framework. 3. Panning down shot of indeterminate robotic apparatus (servos and frame visible) 4. Two white hands assembling a wooden table. 5. 3D printer creating a small sculpture with arm in the right foreground. 6. CNC machine cuts grooves in board at 2-3X speed.
Staff, white male: Commentary With the money allocated for technology in the RTT grant, we've done several different things, the purchase of the devices for students and teachers to use, we'll purchase about 18,000 Chromebooks in total for students in grades 3 through 12.	7. White, female student looking down at table intently 8. Computer screen showing schematic of component pending assembly. 9. Male student, race indeterminate, looking at poster in web browser, typing something into search engine. 10. Wide shot, students around metal tables with Chromebooks visible. 11. Close up of Chromebook with white arm in background, both logos, HP and Chrome, visible. 12. 2 male students close up: near, race indeterminate, earbuds in, blue light from screen reflected on face; far student, white, same.
Teacher, white male: Testimonial "Chromebooks have provided a lot of differentiated instruction, all of our coursework is now offered on Chromebooks *via* Google Classroom, uh it's really revolutionized how we provide curriculum here at the school, it's also reduced the paper footprint and it allows them to ask me questions in real time, it's really provided a unique opportunity for students to, to move into um you know 21st century learning."	13. Panning shot, two white female students at screens, one looks up and away to hail someone, presumably teacher. 14. 3 students talking while standing at workstations. 15. Jars, 2 with chips, 2 empty, 2 full of indeterminate objects
Staff, white female: Commentary "Uh the Race to the Top grant has helped provide not only the equipment for this course but also some of the training student training and teacher training and allows us to be more prepared to use the equipment in here."	16. Student bending over table with electronic components visible, object hidden. 17. White male student at computer. 18. Same 2 students as before w/ screen visible, software indeterminate, two windows open.
High school student, race indeterminate: Testimonial "A lot of the stuff we're doing here it's impacting the community and we're using technology in such a way that it's actually going to make a difference."	19. Screen shown, 3 separate windows open, browser and sound/video editing software.

Recontextualization Chain of Video Excerpt.

- **Semiotic Practice: Public relations video**
  - Music (upbeat guitar-driven)
  - Interviews (footage, audio)
    - Footage of class work
      - Footage of classroom technology

In this sequence, a total of 1 minute 17 seconds long, 4 interviews are rolled sequentially as music (upbeat, electric guitar driven with lively trap kit) plays and background footage of students using computers rolls behind them. The recontextualization process follows thusly: the first and principal social practice, publishing a video showing responsible use of federal monies, recontextualizes the interviews, which in turn recontextualize the activities featured in the background footage. The practice "students engaged in coursework" is recontextualized by being placed alongside other shots and activities. The actual practices involving technology, especially students using it for coursework, in other words, is thrice-embedded into other social practices: they are put within interviews with staff, teachers, or students, which are in turn embedded within the aims of the video itself (to garner public support for the school district's continuing reforms).

Different practices included in this chain, also, are represented multimodally, so that footage is embedded in interviews, and music is superimposed over the whole video, such that the different modes combine into a seamless whole, often working concurrently. Fundamentally, the social practices presented in this video, whether footage of students working, or interviews with staff or teachers, are separated from all their original meanings and contexts and made to function within the goal of celebrating the first year of the grant. The background shots shown in the right-hand column, for example, are recontextualized with the interviews shown in the center

column with special effect, the modalities (measures of veracity) of video adding particular emphasis to the content of the interviews. Even background shots including just a logo of a technology company are taken, recontextualized as they are, as documentary "evidence" that technology is being used meaningfully in the school district. Take, for example, the shots used in an introduction to the "technology" section of the video:

1. Slow panning right: white male student at computer with schematic similar to engineering software visible on screen
2. Two white hands adorned with blue watch and pink armband assembling metal framework
3. Panning down shot of indeterminate robotic apparatus (servos and frame are visible)
4. Two white hands assembling a wooden table
5. 3D printer creating small sculpture with arm in the right foreground
6. CNC machine cuts grooves in board at 2X speed

These background shots, 1-6 (see the right-hand column of the above excerpt), with their quick transitions on the downbeat of the music, act as an introduction to the whole of Project 7; they are not contextualized within specific activities, as are the rest of the shots (that is, the shots are recontextualized thereafter within the interview that is playing over them) are presented as a microcosm for the whole of Project 7, seeing as the only explanation offered for their coherence is a slide with text explaining "In 20XX, (school district) received a Race to the Top grant of XXXXXX.XX." The concurrent use of music, interview audio, and background footage makes for a semiotically complex interplay of resources all combining to highly specific media ideologies, select aspects of which are described below.

Media ideologies in Year 1 Recap: Technology as social capital.

This video, in contrast to the presentation analyzed above, does not aim to portray practices regarding technology so as to prescribe its use, but rather to publicly justify the decisions the school district has made regarding technology integration and the ways it is being

used. By putting a series of interviewees together within a "Year 1 recap" and by superimposing

footage of students using their devices for schoolwork, Project 7 is shown to have already turned

into concrete and meaningful changes at the level of classrooms. The order of speakers

(superintendent, teacher, administrator, student) being situated so that access precludes change,

the current state of engagement and efficiency is suggested to have arisen out of the

implementation of Project 7. This is in keeping with the aims of the text and the particular

rhetorical situation described earlier in this chapter, one in which the public is relegated to the

roll of bystander rather than participant—celebration of achievement indeed precludes the need

for public scrutiny, the changes being under strident federal oversight. Indeed, the whole video,

overlain with upbeat music, is celebratory, and each practice shown in the video is ultimately

recontextualized into this function. The variety of work shown, the types of work shown, the

speed with which they are transitioned, and music all contribute to a sense that the work of the

school—"learning"—has been injected with new verve.

There is also the suggestion, in this opening sequence, of a planning process, beginning

as it does with a student working with engineering software and a schematic and subsequently

showing students assembling robots, tables, and using a 3D printer. The emphasis on applied

work suggests that the school district seeks to portray itself as emphasizing STEM-based projects

rather than strictly communications multimedia. These shots, notably, are not embedded in an

interview, but are shown in themselves in the context of a school. Tech has enabled, it suggests,

students to be better prepared for technology-based work. The video is showing that students are

using technology in ways that are markedly different than the "out-of-school" functions, which

overwhelmingly involve multimedia. By suggesting that the school uses technology more akin to

the "real-world" of work, the video at once establishes the legitimacy of school district's choices

and also delineates "technology-in-school" from "technology-out-of-school," just as the internal presentation I discussed earlier in the chapter.

There is, furthermore, a crucial moment in the video that demonstrates the unique ability of video footage to construct tacit statements about technology integration. In the 2nd interview in the above excerpt, an agriculture teacher describes the benefits brought about by the introduction of digital tools into his classroom. This momentary focus on the goings on of this particular classroom arguably functions as an example of technology integration writ large in the district, given the cooccurrence of statements by administrators in the first and second interview (see the first interview in middle column). The interview with the teacher is here stepped out in numbered lines for ease of analysis:

1. Chromebooks have provided a lot of differentiated instruction,
2. all of our coursework is now offered on Chromebooks via Google Classroom
3. uh it's really revolutionized how we provide curriculum here at the school
4. it's also reduced the paper footprint and it allows them to ask me questions in real
5. time it's really really provided an opportunity for students to, to move into um
6. you know 21st century learning.

In each of the 5 statements that the speaker makes (as indicated by either a new subject or the use of the pronoun "it" as a grammatical expletive), either Chromebooks themselves or the integration of Chromebooks (see lines 3-6) are the subject. The speaker refers to benefits focused on the experiences of individual students (see lines 1, 4-5) and on efficiency (line 4), but otherwise uses the terms "revolutionized" (line 3) to describe the move to digital curriculum delivery and summarizes the change as students having the opportunity to "move into...21st century learning" (lines 5-6). (Note that in lines 2 and 6, the teacher uses phrases that occurred in the NETPs analyzed in chapter 2 of this dissertation.) The phrase "21st century learning" here establishes the timeliness of the change and suggests that students are being prepared for a

"digital future"; he also references discourses of connectivity in lines 4-5 when he says "asking questions in real time." Overall, it is a wholehearted endorsement of the change that makes reference to several widespread discourses on educational technology, but the footage of that same classroom, used as a backdrop to this same sequence, adds nuance to this endorsement and even adds, I argue, a new layer of meaning. Whereas the testimony of the teacher emphasizes the advantages of technology integration in every phrase, the background shots in this same sequence are moments that would not otherwise require the use of any digital tool. These are as follows:

1. Panning shot, two white female students at Chromebook screens, one looks up and away to hail teacher
2. Three students talking while at workstations, Chromebooks visible
3. Jars, two containing chips, two empty, two full of indeterminate objects
4. Teacher walking among tables where students are working, Chromebooks visible

Other similar background shots in this excerpt (see for example the introduction at the top of the righthand column) frequently showed students working individually and silently at their computers or simply showing a piece of industrial technology working on its own with no visible subject. The shots that punctuate the teacher's testimonial, however, feature easily-recognizable moments in the classroom in which the Chromebooks may easily be redundant. The Chromebooks are visible in all shots but shot 3 (which is only 2.5 seconds long), but they are in the background of each one. In shot 1, the shot begins by showing students working at a Chromebook, but pans up and to the left as the student hails the teacher, who is offscreen, thus emphasizing the student and the act of hailing rather than her work on the Chromebook; in shot 2, the workspaces on which the Chromebooks are situated occupy the bottom third of the screen, with visual emphasis on a student who is looking up and talking near the center of the shot. These background shots, I argue, add a counterpoint to the testimony of the teacher by relegating

the Chromebooks to a background role in the practices depicted, thereby tempering the accusation that the introduction of digital tools obviates such needful moments as experimentation and collaboration. To a member of the public, it would thereby appear to be "business-as-usual" with regard to face-to-face interaction by students, but with the addition of new tools.

This combination of teacher testimony and background shots, taken separately, would likely emphasize contradictory elements—the interview testifying to the transformative properties of devices, the background footage focusing on personal interaction of students and hands-on work. When the background shots are **overlain** with the interview, however, a distinct picture of technology integration is depicted in which the benefits of digital tools are available but without the oft-accompanying isolation—taken in its totality, this sequence suggests that technology integration in this particular classroom has not overshadowed such "in-person" practices as asking questions in person (shot 1 above), talking with classmates face-to-face (shot 2), or conducting experiments (shot 3). This message refers implicitly, I argue, to discourses on digital technology that would emphasize its "isolating" qualities (as indicated by statements focusing on the amount of time students spend on their phones or on social media). Digital tools are being used appropriately—so goes the tacit argument.

Analysis of background footage of students working.

The background footage taken on its own, in addition to its combinatory meanings achieved with the content of interviews and with the music, also offers distinct and notable meanings for technology as it is integrated into schooling. The background footage, by "documenting" examples which are commented on during the interviews, subtly legitimizes the

right of interviewees to speak (a key goal in MCDA is to study the ways that asymmetrical power relations are justified; see Roderick, 2016), but also functions beyond this recombinant role in the video by privileging specific types of technology use. In the excerpt from the video, one of the primary ways in which technology is shown to be recontextualized into classroom practice is through actual footage of students using technology in classwork. These shots, as they are in the background, are recontextualized into the act of interviewing (in transcript, refer to interviews with concurrent background footage), but this is not the extent of their ability to make meaning—that is, they are recontextualizing technology use into various forms of classwork, whether homework or projects, but only specific kinds of technology use.

As the aim of this video is to extol the reforms undertaken in the district, it stands to reason that only sanctioned, positive uses of technology are featured—but what aspects of the background shots make the technology use "good" apart from the interviews overlaying much of the footage? The uses of digital tools that are featured in the background of this excerpt, notably, are exclusively applied or industrial.

The descriptions of the background shots of the excerpt are included here, with analysis of key moments below:

- ❖ Segment 1: Introduction
  - o Slow panning right: white male student at computer using engineering software; schematic of industrial component visible on screen
  - o Two white hands adorned with blue watch and pink armband assembling metal framework
  - o Panning down shot of indeterminate robotic apparatus (servos and frame are visible)
  - o Two white hands assembling a wooden table
  - o 3D printer creating small sculpture with arm in the right foreground
  - o CNC machine cuts grooves in board at 2-3X speed
- ❖ Segment 2: Staff Interview
  - o Female white student looking down at table and apparently reading something; face is intent
  - o Screen showing schematic of a component pending assembly

- o Male student, looking at poster in web browser, typing something into search engine
        - o Wide shot, students around metal tables with Chromebook visible
        - o Close up of Chromebook with white arm in the background, both logos, HP and Chrome, are visible
        - o Two male students, close up: near, mixed race, with earbuds in, blue light from screen reflected on face; far student, white, same.
- ❖ Segment 3: Teacher Interview
        - o Panning shot, two white female students at screens, one looks up and away to hail teacher, Chromebooks visible
        - o Three students talking while at workstations, Chromebooks visible
        - o Jars, two containing chips, two empty, two full of indeterminate objects
        - o Teacher walking among tables where students are working, Chromebooks visible
- ❖ Segment 4: Staff2 Interview
        - o Student bent over table with electronic components visible, object hidden.
        - o White male student at computer
- ❖ Segment 5: Student Interview
        - o Same two students as before w screen visible, software undetermined, two windows open

First, students are all working alone at their own devices. There are no adults except in the interviews and once in the classroom in segment 3. There are also multiple shots of students working intently at screen, but viewers do not see always what is on the screen. It is worth asking what readers may assume about the kind of work it is, since these assumptions aid in interpretation of these texts and provide clues as to the creation of media ideologies through texts. Students are sitting at computers in school in a classroom—this is enough to make us think that they are doing their work under the supervision of the school or the teacher, and that it is not only productive (technical), but also that students are working alone and independently (meaning their competencies are being addressed and used and they are engaged); also that the school is overseeing their technology use. The district is thereby shown to be on-task and on-pace with the ongoing changes in technology.

Secondly, work, when it is shown, is technical (robotics, tables, CNC machine). As is especially apparent in segment 1, there is a sense of coherence between work on computers (symbolic) with technical work (applied) as these shots occur consecutively and quickly. There is a huge variety of kinds of work shown in the background footage, but of the 19 separate background shots in this above excerpt, 8 of them show applied work, meaning work whose application is not semiotic (as in the creation of media) but has a functional application, whether engineering, construction, or robotics. The frenetic assembly of shots that make up the section's introduction, for example, all show students either building something, preparing to build something, or using technology to create something:

- ❖ Slow panning right: white male student at computer using engineering software; schematic of industrial component visible on screen
- ❖ Two white hands adorned with blue watch and pink armband assembling metal framework
- ❖ Panning down shot of indeterminate robotic apparatus (servos and frame are visible)
- ❖ Two white hands assembling a wooden table
- ❖ 3D printer creating small sculpture with arm in the right foreground
- ❖ CNC machine cuts grooves in board at 2X speed

The progression of shots here is notable in that it suggests a particular orientation favoring "applied" technologies, with the first shot featuring the use of computer software and then transitioning to a further 5 shots featuring a number of other industrial technologies (robotics in shot 3, 3D printer in shot 5, CNC machine in shot 6). These activities arguably form a sequence in that, in shot 1, the only shot in this sequence of 6 shots that features a computer screen, it is a schematic that is featured, not video editing or a word document. There is the suggestion in this sequence of 6 shots that the application of technology in the school district is focused on applied aspects—that technology is "building things" and has applications in the physical world. Furthermore, these shots function as an introduction to the section covering progress in Project 7,

technology integration; this means that these shots function as an "overview" of the work that students are doing, the applications of technology in the school, the future work they are being trained for.

In this video, the experiences of students are shown to be "productive." That is, the commonality across the practices depicted in this series of background shots is that something is being constructed. By showing exclusively "applied" aspects of technology use, the district's use is contrasted with the more "passive" uses of digital tools that students are commonly assumed to engage in (see line 2-3 of excerpt 2 of internal presentation). **In this short series of background shots, there is a separate argument being presented alongside the content of the interview described above: that the normally passive practices associated with digital technology are being turned into cultural capital by virtue of their placement in schools in the school district.**

In summary, the meanings for technology achieved in this video create a strategic vision not only for the learning outcomes associated with technology integration but also an outcome to the supposed social implications of digital practices. The emphases here on the use of digital tools in tandem with personal and hands-on interactions as well as on the applied and industrial uses of digital technology delineates technology use in school from technology use in the home. Whereas digital technology is often assumed to be an ersatz form of personal interaction in personal life, technology in the school is shown to be used alongside "real," face-to-face interactions; whereas digital technology is used in the home largely for passive consumption and for "pacification," the school district is using technology to create things.

The ways that digital tools are shown to be embedded in the social practices of schooling are such that they were shown to offer a meaningful alternative vision of technology use that

stands in contrast to public discourses about the digital practices of students—specifically, assumptions about the harm that digital technology use may do to students. In this footage, the integration of technology into this school district is suggested, thusly, to be socially-responsible and student-centered.

PART V: DISCUSSION AND CONCLUSION

As the media ideologies created in these two texts supported Project 7, the meanings for technology created by the two texts were markedly different. Whereas the public-facing video made use of public discourses about digital tools to depict the school district's uses of technology use as an aid to students' social capital, the excerpts from the internal presentation centered an implicit goal of iterability and uniformity. In response to notable administrative complexity in the school district, the integration process itself was depicted in both texts as seamless, and in the video as fully done, as supported by interviews and the suggestive qualities of background footage. This variability suggests that, at the level of individual texts, media ideologies function as a "frame" by which readers may understand the particular meanings of technology, thereby integrating such diverse elements as participant roles. In other words, the media ideologies (processes of making meaning about technology and media) investigated in these texts were not statements that were separate from the communicative events in which they were constructed, but were rather tied to the rhetorical aims of the document (in that they affected the presentation of classroom practices by means of recontextualization) and to its audiences. The assumptions about proper use of technology depicted in these documents were constructed not only through overt descriptions of its use, but also by the ways in which social practices were embedded in each other in the texts, which in this case continually reiterated the right of the school district to control technology use by reference to the sorts of activities that go

on in school and invoking public discourses about the uses to which students put digital tools out of school—that is, for "recreation." The argument in both cases goes something like this: "since learning, not recreation, goes on in schooling, technology use in school will also be formative." The justification of the administration of digital tools' use underlaid depictions "proper use." In this way, the construction of a domain (i.e., public schooling) was a key resource by which the texts achieved their situated meanings.

Furthermore, these texts show us that institutional media ideologies, reliant as they were shown to be on the goals of the individual texts, make meanings for technology in such a way that they invite—or preclude—particular kinds of participation by stakeholders. The funds having come from a federal grant, oversight of technological change in the district was rigorously overseen, such that involvement by the public would have been cumbersome (as indicated by the documentation process that created the RTTT archive, which was exceptionally exact). In the case of the presentation, administrators were asked to take specific action with regard to administrative structure and purchasing, which were in themselves large commitments. The video, being a showcase of technology integration into classrooms, put the public into the role of spectators by the use multimodal elements, including music and background footage that gave the impression of technical work by students; the public's role is to celebrate what has been done and the decisions that have already been made.

Having described the social and rhetorical context of these two texts, the need to study media ideologies in-context is also demonstrated. In this data, it was found that, as technology was embedded (recontextualized) into practice by means of discourse, it was interacting in intricate ways with the social meanings associated with that practice. Media ideologies, in this data, were not simply commenting on the use of a piece of technology, but also on the efficacy of

ways of accomplishing the social act in which it is embedded--that is, digital tools were touted as means for better schooling. These texts invoked socially-constructed understandings of schooling and technology, but they also offer new assessments of these same practices by arguing for technology integration.

As shown in the analysis of recontextualization chains, furthermore, I demonstrated that the media ideologies were not divorced from the situations facing authors but were rather folded into the rhetorical aims of the texts. In each of the texts analyzed here, the assumed usefulness of technology relied on a tacit, situated understanding of the social practice in which it was embedded, but the semiotic resources associated with each text (text and video, respectively) also meant that their arguments about the efficacy of technology integration were starkly different. In other words, the functional assumptions about technology and schooling that were mobilized as semiotic resources in these texts shifted according to the aim and modality of the text. The video used embedded footage of students using Chromebooks overlaid by interviews with staff to suggest that students were engaged in productive and collaborative work; the presentation, however, stepped out an argument that contrasted the domains of home and school and what kinds of technology use was appropriate there. The differences in modes did not mean that one was more or less "persuasive" about what kinds of technology use was appropriate; indeed, close analysis of these texts demonstrated that media ideologies are not restricted to overt arguments for one or another type of technology use but are constructed potentially any time that technology is "incited into discourse." This emphasis on the creation of media ideologies in texts and their malleability also complicates the idea that institutions (supported as they are by the production of texts) have—or can even maintain—a single media ideology. In the texts analyzed here, the successful addressing of attitudes of multiple stakeholders (i.e., public, administration)

meant appealing to different social configurations that in turn had their own assumptions about the role of digital media.

By approaching these texts using Multimodal Critical Discourse Analysis, the idea that modes are recombinant and emergent (Roderick, 2016) is further attested to. The supposed "reality" of the technological changes discussed in the video, for example, was reinforced by the use of background footage of students working individually and intently; the upbeat tone of music gave a sense of enthusiasm and energy to the uses of technology. The affordances of these same modes, however, in addition to supporting the linguistic elements of the video, also created complementary "statements" about technology use that privileged technical work. Beyond simply making use of tacit assumptions in order to construct meanings for digital technology, these texts also supported Project 7 in different ways by accentuating different aspects of technology use, but also helped, by construing particular types of technology use with specific domains (home and school) to construct a convenient "myth" about educational technology—that "learning" will take place any time that technology is integrated into schools, thus making use of discourses on technology such as "technology as progress" (see Roderick 2016). Such a narrative is indeed expedient given the rhetorical aims of both of these texts (planning or extolling Project 7).

If a reader takes at face value these two institutional texts as well as the NETPs analyzed in chapter 2, one might gather that the integration of technology into public schooling is a straightforward affair akin to updating a business to make it more efficient. The official arguments for the integration of digital tools that I have been studying heretofore, however, predictably elide the difficulty and political ramifications of this change, painting the change as a matter of integration only and creating discursive environments in which stakeholders are not

offered a subject position with which to resist technical change. There is thus no official

"narrative" with which teachers or staff may give meaning to their struggles to learn new tools or

media ideologies. This systematic elision of recalcitrance from the official narrative, as I argue in

the next chapter, has notable consequences for students and for staff—given a tendency toward

"schooled" media ideologies that reify elements of teacher and administrative control,

disjunction between personal and institutional media ideologies have repercussions far beyond

an individual's "opinions about technology" as they might discuss them in more informal

settings. As I discuss in the next chapter, professional values and experiences are at stake when

personal media ideologies (such as those studied by Gershon, 2010a, 2010b) meet institutional

media ideologies.

CHAPTER 4—A SOCIOLINGUISTIC APPRAISAL OF MEDIA IDEOLOGIES IN SPOKEN DISCOURSE OF PUBLIC-SCHOOL TEACHERS

PART I: INTRODUCTION

The preceding chapters have considered how media ideologies form in institutional contexts by means of discourse at the national and local levels. Having taken a discursive view of institutions, texts have been the primary data, with emphasis on the recurring discursive processes by which the meanings of technology were created and recreated. In chapter 2, specific widespread documents were used to illustrate the role of such documents in the creation of an "institutional rhetoric" that, through joining specific terms with educational values and creation of institutional contexts (i.e., processes of contextualization), the boundaries of meaning of educational technology come to be connected with specific professional values, chief among which was "engaging students." In chapter 3, media ideologies in the more localized texts produced by a school district in the American Heartland showed that the media ideologies within institutional texts were not the same across communicative events (i.e., audiences and rhetorical aims), but were enmeshed in the particular needs of the moment, which suggests that multiple media ideologies may exist concurrently in an organization according to its administrative structure and the specific obstacles to technology integration, whether logistical or attitudinal. It was also suggested in chapter 3 that the processes by which texts embedded technology in social practices (for example, assessment of student learning) were themselves key for analyzing the creation of institutional media ideologies.

In order to see how institutional media ideologies function at the level of spoken discourse (and indeed what is the interaction between those media ideologies found in written texts and those seemingly present in the discourse of individuals) at this particular independent school district, I now turn from institutional media ideologies in texts to media ideologies

present in the discourse strategies of individual teachers as they talk about their work and their use of technology as they respond to the media ideologies within their organization (whether to incorporate them, resist them or adjust them).

In this chapter, it is argued that the social relationships in the organization influenced the available discourses whereby practices are described, and thereby how different media ideologies form within these relationships, as these relationships influenced the resources by which participants endowed the use of digital media with value or denigrated it.

As with the previous chapters, media ideologies are here treated as the discursive process by which technology is made meaningful within specific practices (that is, the process by which situated meanings for technology are generated). There is special attention paid to the following: 1) the ways that media ideologies form within the context of the individual's professional communities and values; and 2) the ways that disagreements about technology and disjuncture in media ideologies are portrayed in discourse. To facilitate these emphases, this chapter builds a rich, in-depth picture of the social dynamics surrounding the use of digital technology in the district. Indeed, careful attention to the social contexts that underlie the uses of digital technology is needful in the study of localized institutional media ideologies, for it is here, in the intersection of the social and the discursive, that the situated meanings of technology arise. There is special emphasis on the ways that participants signal and claim positive social values associated with teaching and public education as they speak about educational technology.

PART II: METHODOLOGY

This chapter makes use of separate, complementary data sources: a district-wide email questionnaire intended to capture an overall picture of teacher attitudes toward technology in the school district; and a series of 7 in-depth, semi-structured interviews with teachers in the school district in which participants describe the ways that digital technology is integrated into their work and their attitudes toward the uses of digital technology in the classroom.

By using a combination of attitudinal surveys and discourse analysis, this chapter brings attention not only to the attitudes and self-describing statements regarding digital technology (such as are typical in surveys, in which participants may be asked to describe their "stance" or "attitude" without any external point of reference), but also to the discursive processes by which media ideologies are constructed in-the-moment, in context, and with reference to situated social worlds. In the next section, I discuss the questionnaires and interviews in more detail.

Questionnaires

The survey (see appendix B for full survey) was designed to gauge the attitude of respondents on specific aspects of technology use and on technology integration in general. Many of the questions used the Likert scale to allot numerical values to respondents' perceptions of technology use, integration efforts, and institutional support. Also included were the addition of several "open response" portions as well (which, while illuminating, were not included in the current form of this study in the interest of space). See appendix B for the full list of survey questions.

Upon approval by both the school district and the IRB at my home institution, the questionnaire was sent to teachers in the district by a staff member in the communications

department. The questionnaire was administered using Qualtrics over a period of 3 weeks and then closed, having attained approximately a 6% response rate of the total population of teachers in the district. After closing the survey, I conducted a multivariate analysis of the survey data using Qualtrics' onboard tools. The derived percentages are used to describe general themes in the attitudes of teachers in the district regarding technology use and to identify some possible influences on these attitudes (among which are teaching level and age). The analysis of this survey being descriptive rather than predictive, it does not make a claim to validity in other settings, but only describes the attitudes and felt proficiencies of a small sample of teachers in this particular school district. Survey responses with missing values (i.e., surveys that didn't answer all the questions) were included in specific queries (the total number of answers are included in the totals of specific tables).

There are any number of correlations to be drawn from this data, and future projects will indeed delve further into the meaning of the survey results. As discussed in the conclusion to this chapter, however, the results of the survey were problematized by the interview data to a remarkable degree; specifically, the respondents' self-described attitude toward digital tools did not necessarily match the discourse practices that they used to describe its proper use, which points to the need for a multifaceted approach to the study of institutional media ideologies.

Interviews

Participant selection

This being a within-case study, an in-depth look at a single, bounded case (Miles et al., 2014), the criteria for participation in interviews was that participants must be over 18 years old and an employee of the school district in question, either currently or formerly. The protocol, which was created early in the study's development, purposefully left open the possibility of

interviews with non-teaching staff, but I later determined need to emphasize the experiences of teachers, since they are implicated by the texts analyzed previously in this dissertation—that is, implicated, but not addressed. Participants were recruited using a convenience sampling method; following approval by the IRB at my home institution, I contacted principals of the schools in the district, requesting their assistance in recruiting teachers from their school. Once this invitation was published, teachers, in turn, responded to the query by contacting me through email, whereupon they were formally invited to the study and provided with informed consent documentation, which they returned.

All told, 7 teachers volunteered to be interviewed for this research. These individuals represent a range of ages, levels of teaching experience, and levels of comfort with technology. Across all the interviews, however, I quickly discerned that my study of institutional texts on technology integration (see chapter 2 and 3) did little to prepare me for the ways that teachers actually experienced technological change in the district. As I listened, made notes, and compared the transcripts to establish themes, it was apparent to me that teachers did a remarkable amount of work just to keep abreast of COVID-era changes (hybrid and remote teaching) and the shifting constellation of digital tools (websites, software) that they needed to use in their work.

In most types of qualitative research (i.e., ethnographic or phenomenological approaches to interview data), this pool of interviewees may be considered too small; in studies of discourse, however, saturation is an elastic concept, which means that the researcher is not seeking to "exhaust" a discourse but simply to find "traces" of it (Phillips & Hardy, 2002, p. 78). Accordingly, the analysis of interviews presented is not meant to establish commonalities between thoughts or attitudes of teachers in the district—this is the job of the email questionnaire—but instead to offer a close and critical examination of the experiences and

discursive strategies of a few individuals as they made sense of their experiences using media technology in the classroom. The responses collected are thus meant to ground the theory of constructed media ideologies in concrete examples of individualized discourses rather than to claim that the opinions collected from the sample are representative of those held by a categorical group (in this case, all the instructors in this school district). As not all participants responded to requests for a participant-selected pseudonym, I have selected designations alphabetically in the order they were interviewed. The respondents were all white and were native speakers of English, notably, which means that the experiences and discursive strategies of minority teachers were present only in the survey and in written responses in the survey. The respondents were not asked to volunteer information on such subjects as sexual orientation or gender identity, but frequently divulged aspects of their family lives as they explained their uses of technology. Rather than ask respondents their age, respondents frequently constructed their own identities in terms of age by references to their training and background (as C says, "yeah I'm a dinosaur," and laughs).

It is notable, too, that the subject matter of my research may have influenced the pool of participants in that the means of involvement in the research (logging onto a Zoom call) were themselves reliant on a certain level of comfort with media technology. As became apparent later, knowledge of digital tools was very much a matter of professional pride with this group of teachers, and speaking to an "outsider" (me) about insecurities in this regard would have demonstrated a high level of vulnerability. The teachers in this sampling, in any case, professed themselves to be comfortable with the use of digital tools in the classroom, but not all of them "expert."

The recruitment method for both the questionnaire and interviews being the "convenience" model, the respondents that contacted me were all white. Race and culture are key areas of study in media ideologies, as reflected in the literature in digital anthropology, but the data collected here, being constrained by time and availability, could not afford any meaningful insights into the role of race or ethnicity with regard to institutional media ideologies because of the sample size.

Interview method and questions

This series of 7 interviews were conducted using a semi-structured approach, such that the protocol itself was meant to be generative and an aid to participants' meaning-making strategies rather than a rigid framework for comparing answers. Frequently, interviewees would move toward an upcoming question in the protocol without having been prompted; for example, they would begin to mention their experiences with technology training well before question 6, when I would ask them about their training. In some interviews, the respondents took control of the protocol (that is, took the conversation in a different direction) to such a degree that not all the questions were answered fully. The emphasis of the study being the discursive strategies by which participants made sense of their experiences and opinions of technology, these "digressions" were not detrimental but rather opportunities for richer insights. Indeed, the passages in which participants explored specific memories or thoughts were among the more fruitful moments of the data-gathering process. Teachers were graciously willing to describe their use of digital tools in detail, and I would often take a "backseat" in the interviews as teachers explored different areas that they deemed relevant to the discussion—which, as the analysis details, is itself important for understanding how some teachers conceptualized their use of technology in their work. The depth of the answers meant that, as the questions proceeded,

teachers frequently revisited and elaborated on previous answers, such that the structure of the interviews, while strikingly similar in terms of discursive strategies and overall content (see categories and themes below), varied widely in terms of individual structure.

The questions in my interview protocol were as follows:

1. What is your title, professional role, and responsibility?
2. What kinds of technology do you use in your work, and what do you use it for?
3. In what ways have you noticed or experienced technological change in the district?
4. What technology-related difficulties have you experienced in your work?
5. What obstacles to technological change have you noticed or experienced in the district?
6. What has been your experience with technology training in the district?
7. What has been your experience navigating the system-wide technological changes that the district has enacted?
8. What are your beliefs about the usefulness of technology in schooling? Why do you think it is useful/not useful, and how should/shouldn't it be used in schooling?

The interviews were all conducted remotely using Zoom and lasted from 20-40 minutes. During the interviews, I took down notes on the stance, emphases, and delivery of the interviewees while also asking myself questions about possible directions to take in my analysis. I used the "automatic transcript" function on Zoom to create "rough" transcripts, which drastically reduced the amount of time and effort needed to transcribe the interview, but the software also frequently included homophones and misheard passages which needed to be checked with reference to the video recording; intonation and delivery also needed to be added to excerpts. Following the clean-up of the transcripts, I provided participants the opportunity to member-check their work by identifying passages which they were reticent to include in my research, with the stated provision that, if interviewees did not respond to the request for member checking, the transcript would be used in this research without any redactions.

Following the collection of all 7 interviews, I used provisional coding (Miles et al., 2014) to identify commonalities in the ways that teachers talked about technology or technology use. These provisional codes became 3 main categories: "Learning to use Technology," "Using Technology," and "Disjuncture in Media Ideologies." As these provisional codes were revised over time, I also created themes within each one, using a combination of **memo writing** (two separate documents in which I made entries as I cleaned and coded the transcripts) and **jotting** (notes made on the transcripts themselves using Microsoft Word's "comment" function.) The interview data gathered for this study is presented in narrative form (Miles *et al.,* 2014, p. 91), with excerpts from the data presented as illustrations of the categories and themes. Rather than present data for each theme, I have selected themes that have the most relevance for the questions concerning the social relationships in the district and the meaning of digital tools in education while also presenting notable discursive strategies that give insight into the structure ways that digital tools are talked about.

Interactional Sociolinguistics

Having previously established an overall picture of attitudes toward digital technology in the district by means of a survey, this chapter makes use of methods from **interactional sociolinguistics** to explicate the ways that participants form situated meanings for digital technology use in their work using such analytical concepts as footing, contextualization cues, and the role of contextual suppositions. According to Gumperz (1982), contextualization cues are "any feature of linguistic form that contributes to the signaling of contextual presuppositions." (p. 131). These elements help participants establish which contexts are relevant for interpreting the discourse. Footing, a term made popular by Goffman, refers to the "alignments" that appear

as the speaker tries to manage the reception of an utterance (Schiffrin, 1994). Frames are the

"organizational and interactional principles by which situations are defined and sustained as

experiences (Schiffrin, 1994, p. 104). This approach to discourse analysis, made popular by the

work of John Gumperz and Irving Gofman, seeks to elaborate the ways that utterances arrive at

particular, situated meanings by references to particular social contexts. In this case, I use these

tools to investigate how the "social worlds" of teachers affect the ways they ascribe meaning and

value to particular uses of technology, with particular interest in the ways that individuals

approach the institutional media ideologies presented earlier in this dissertation. These analytical

tools are not taken as mechanical means for producing meaning or even as "rules" but rather as

descriptors of the strategies that participants employ as they convey their experiences and beliefs.

Brown and Levinson (1987) note, in their study of politeness in discourse, that a strategy-based

explanation of language use is more appropriate than rule-based, as violations are often

themselves intentional. Indeed, the public discourses on technology and education that appeared

in the data, however consistent, were not universal, prompting the assertion that a strategy-based

exploration of media ideologies yields insight into the ways that institutional media ideologies

appear and function in spoken discourse.

Using Discourse Analysis on Interview Data

Ilana Gershon (2010a, 2010b), whose ethnographic work on media ideologies informed

much of my own interest in this subject, uses qualitative interviews to investigate how views of

proper media use informed the ways that individuals mediated the act of "breaking up" and,

specifically, what choice of media (e.g., text, in-person, phone call) was deemed appropriate.

This chapter, likewise, addresses the discourse of interview subjects with regard to their

technology use with a focus on their views of "proper" use. My interest, however, is focused on

professional communities rather than on the discursive strategies of individuals—these teachers

are speaking as professionals with a distinct social role, not merely as individuals, since the uses

of technology that I asked them about were professional rather than private. Furthermore, the

ways that teachers talked to me, an "outsider," about their work is not the way that they would

talk to each other— the discourse patterns used in these interviews, in other words, cannot be

taken necessarily to also reflect all the ways that their own practices gain meaning through

discourse. **The significance of the discourse patterns that occur in this interview data is that**

they may provide clues as to the social basis of their individual media ideologies—meaning,

their interactions with the media ideologies present in the institution of public education.

As previously argued in chapter 3, the aims of the discourse and the elements of the

communicative event affected the media ideologies presented there, and these interviews are

arguably similar in that regard. Indeed, as opposed to more traditional approaches to the

qualitative interview, this analysis is not taking interviews merely as representations of

participants' opinions, stances, or actual uses of technology, but as communicative events in

which individuals "incite technology into discourse" by discussing the ways it is integrated into

practice. It is assumed in this chapter, as in the other chapters, that as people talk about

technology, they also make tacit, socially-relative judgments about it, and in doing so produce

media ideologies. The act of "speaking," however, is far from straightforward—any adequate

explanation needs to focus on the nexus of discourse and the processes of contextualization that

are used to create situated meanings, for it is here that the previously established discourses on

technology and education, with all their ideological trappings attendant assumptions, are invoked

as resources in the discourse.

In keeping with the overall aims and assumptions about the social construction of meaning through discourse, the theoretical paradigm used here is social-constructionist—the qualitative interview is therefore understood as a situated communicative event whose meanings are variable and co-constructed. It is not merely the individual meanings (see Creswell & Poth, 2016), however, that are at issue here, but also processes of meaning-making. Briggs (1986), taking a critical stance toward the traditional understanding of context in the qualitative interview in social science research, determines that any rigorous understanding of the meanings created in a qualitative interview must view context as a communicative resource rather than as extraneous to the interview process. The researcher, he claims, is not "outside" the process but is unavoidably a participant, which means that the contextual presuppositions of the interview that would allot "roles" to the participants are not given but are rather created in the interview. The transcripts are not by any means "doorways to actual thoughts" but are rather **teachers' strategic responses to a research interview with a Ph.D. candidate who has never been a public-school teacher.** All this means that as I engage with the transcripts, there is abundant opportunity for misunderstanding--I do not decide what the participants mean, and the onus is on me to attempt a legitimate reading. By this, I mean that my own media ideologies, professional training, and views of education irrevocably influence my interpretation of the transcripts and the meaning I make of them. (Put simply: if I arrive at a valid understanding of the data, it is in **spite** of my own suppositions, not because of them.) While I cannot transcend my own biases, I attempt to at least keep them in check by approaching my data with a trained awareness of the ways that individuals create situated meanings.

At this point, I turn to the analysis of questionnaire and interview data.

PART III: ANALYSIS

Questionnaire Results

      In this section, I discuss the results of the questionnaire and provide a cursory picture of attitudes toward technology use in the district. The overall trend in the survey data indicates that a majority of teachers in this school district view the use of digital technology favorably, feel proficient in its use, and believe in the efficacy of Project 7, the 1-to-1 technology initiative. Below, visualizations of the overall responses are presented and briefly discussed, after which particular distributions of demographics are discussed in more detail.
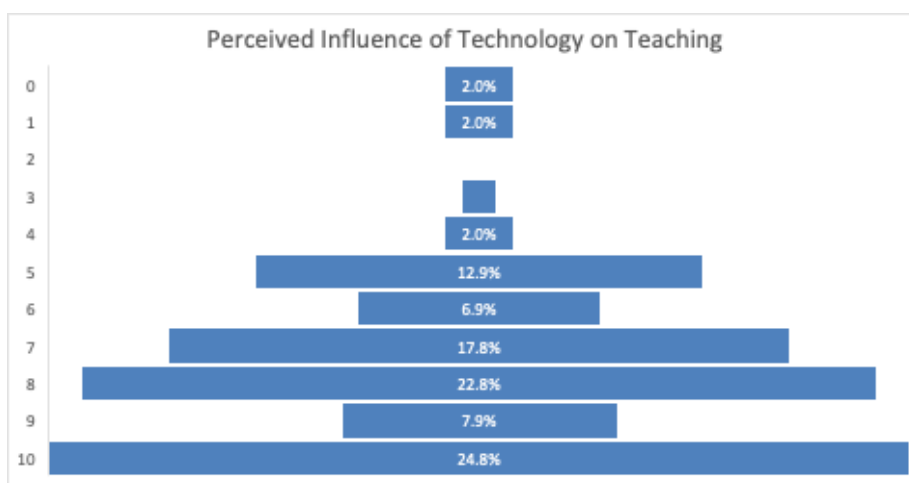
Figure 4.1. Graphic representation of overall responses to question 2.2 ("On a scale of 0 to 10, how much would you say that technology influences the way that you teach (0 being "technology has no influence on my teaching" and 10 being "technology transforms my teaching")?).

      The above question was answered using a visual "slide," in which participants moved an icon along a sliding scale to indicate their response on a scale of 1 to 10. Of 101 total responses, only 7% indicated responses below 5. Nearly a quarter of respondents indicated that "technology transforms" their teaching, with others indicating more measured responses. The visual above

indicates respondent's' positive overall attitude toward digital tools but also measured responses large writ (i.e., there are roughly similar distributions for answers indicating 7, 8, and 10). The overall average answer to this question was 7.4 out of 10, which suggests that teachers in general, while accepting its importance, did not perceive technology as prompting radical change in their teaching. This was also reflected in the written comments, in which teachers reflected on the need to "balance" exposure to digital technology with in-person and especially tactile learning for younger students; they also mentioned that existing practice is merely augmented (made quicker or easier) by means of digital tools rather than "transformed."
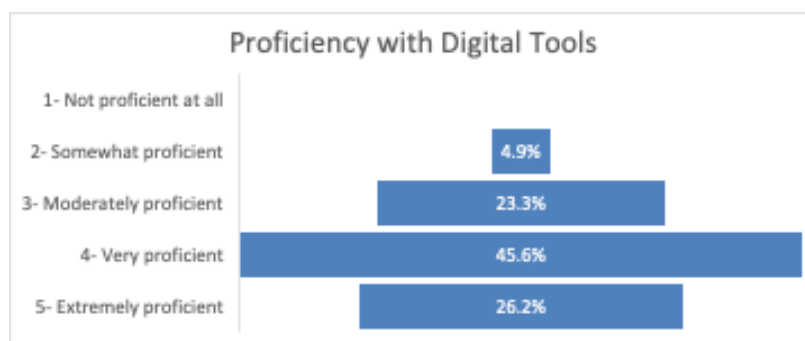
Figure 4.2. Graphic representation of overall answers to question 2.4 ("Felt Proficiency: On a scale of 1 to 5, how would you rate your ability to effectively use the digital tools available to you in the classroom?").

Only 4.9% of respondents responded that they were "somewhat proficient" in the use of digital tools, and it was also notable to me that other questions had a considerable range of answers, with respondents offering measured or even dissenting opinions; but, when asked about their proficiencies with digital tools, no teachers responded as "not proficient at all." This corroborates a trend I identified in the interview portion of this analysis—even if teachers have a measured or negative attitude toward the use of technology in the classroom, they tended not to admit limited

proficiency in its use without qualifications or hedging (i.e., giving explanations for their relative

skill level). This question, however, does not measure an objective standard, but only to what

degree participants want to project as to their feelings of proficiency in the use of digital tools—

it is not a measure of actual skill, but only their own sense of their ability.
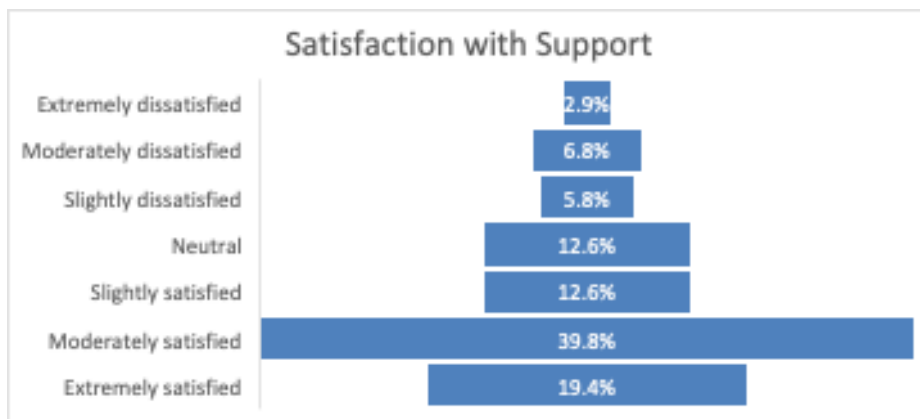
Figure 4.3. Graphic representation of overall answers to question 2.5 ("Support: How satisfied are you with the institutional support you have been provided in your use of digital tools for teaching?").

This question used the Likert scale to measure the amount of satisfaction that teachers had with

their "institutional support" in the use of digital tools. Notably, the phrase "institutional support"

was itself ambiguous given the organizational structure of the school district; it could have

referred to professional groups, in-school support, IT support, or formal training. The main idea,

however, was to ask whether teachers felt support in general, given that different schools and

grades had different tools and support systems. Out of a total of 103 answers, 2.9% expressed

extreme dissatisfaction, 6.8% moderate dissatisfaction, and 5.8% slight dissatisfaction. The most

prominent choice was "moderately satisfied," with 38.8% of the total answers. There is an

upward trend in satisfaction regarding support (i.e., more respondents are satisfied with their

support than are dissatisfied), but answers to this question also represent one of the most varied distributions—the trend is much more gradual and the overall picture more various. The teachers displayed a wider variety of opinions on their support than on any other category.
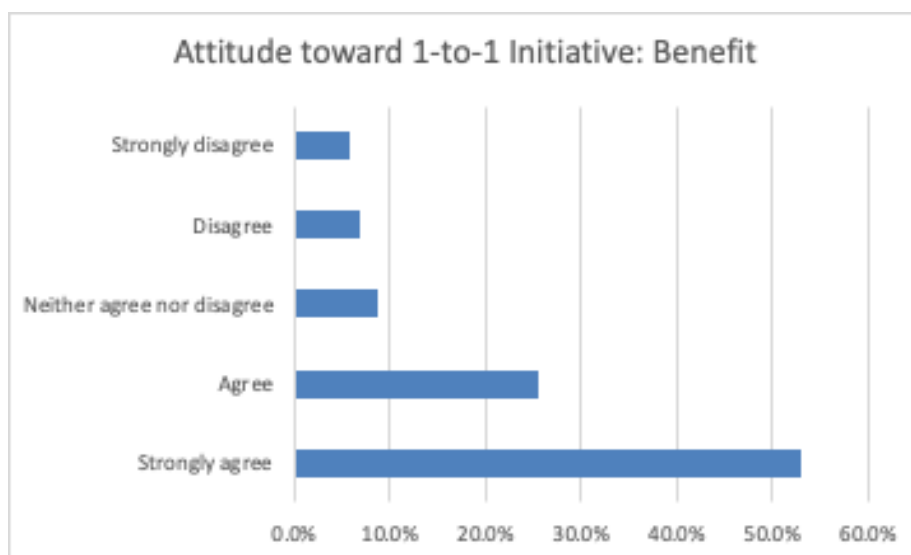
Figure 4.4 Benefit: Please indicate how much you agree with the following statement: "The 'one-to-one technology' initiative has greatly benefitted instruction in (school district)."

Over half (52.9%) of respondents indicated that they "strongly agree" that instruction has benefitted from one-to-one technology, a quarter (25.5%) indicated that they agreed, 8.8% neither agreed nor disagreed, 6.9% disagreed, and 5.9% strongly disagreed. The distribution clearly favors a positive attitude toward Project 7.

Trends in attitude toward digital tools by Teaching Level and Teacher age

The overall picture painted by the survey results indicate a general positive attitude toward technology use, its effectiveness, and the support teachers feel from their respective "institutions," but with some apparent dissent. Those whose attitudes were less positive,

however, showed some suggestive groupings, especially with regard to teacher age and the level

taught. High school teachers, specifically, had the lowest score with regard to:

- belief in the ability of technology to transform teaching;

- assessment of personal skills;

- satisfaction with institutional support;

- and belief in the benefit of project 7.

The average overall answer to item 2.2 (in which participants gave a numerical value to their

views of technology's ability to positively affect teaching) was 7.6 (see Table 4.1). Junior high

school and high school teachers, however, had the lowest average answer to this question: 7.3

and 7.1, respectively. The average answer to this particular question goes down as the teaching

level goes up, with high school teachers answering a full 10% lower than elementary teachers

and junior high a 9.8% lower.

Table 4.1. Teachers' response to question 2.2 ("Change: On a scale of 0 to 10, how much would you say that technology influences the way that you teach (0 being 'technology has no influence on my teaching' and 10 being 'technology transforms my teaching')?") by teacher level. The lowest average answer was from high school teachers, with the second lowest from junior high teachers.

Rating	Total	Elem.	Middle	Jr. High	High
0	0.0%	0.0%	0.0%	0.0%	0.0%
1	2.0%	2.7%	0.0%	0.0%	3.7%
2	0.0%	0.0%	0.0%	0.0%	0.0%
3	1.0%	0.0%	0.0%	0.0%	3.7%
4	2.0%	0.0%	11.8%	0.0%	0.0%
5	13.1%	10.8%	11.8%	16.7%	14.8%
6	7.1%	2.7%	5.9%	16.7%	7.4%
7	18.2%	13.5%	17.6%	22.2%	22.2%
8	23.2%	27.0%	17.6%	22.2%	22.2%
9	8.1%	10.8%	0.0%	5.6%	11.1%
10	25.3%	32.4%	35.3%	16.7%	14.8%
Average	**7.6**	**8.1**	**7.6**	**7.3**	**7.1**

Especially notable among the questionnaire data collected is the distribution of answers

to question 3.1 ("Benefit: Please indicate how much you agree with the following statement:

'The "one-to-one technology" initiative has greatly benefitted instruction in [school district].'").

Table 4.2. Degree of agreement that 1-to-1 Technology has benefitted instruction in the district.
A notable number of teachers in Junior High and High schools indicated negative responses to
the project.

	Total	**Elem.**	**Middle**	**Jr. High**	**High**
Strongly agree	52.9%	64.1%	72.2%	36.8%	34.6%
Agree	25.5%	20.5%	22.2%	36.8%	26.9%
Neither agree nor disagree	8.8%	10.3%	0.0%	0.0%	19.2%
Disagree	6.9%	2.6%	5.6%	10.5%	11.5%
Strongly disagree	5.9%	2.6%	0.0%	15.8%	7.7%

In addition to the teaching level of respondents, the age of the respondents seemed to

indicated groupings in attitude as well. Self-reporting of felt proficiency with digital tools, belief

in the ability of technology to influence teaching, and belief in the benefits of a 1-to-1

Technology initiative all went down as the age of the respondent went up.

Table 4.3. Felt proficiency in digital tools divided by age of teacher.

Rating	Total	25-34	35-44	45-54	55-64
1- Not proficient at all	0.0%	0.0%	0.0%	0.0%	0.0%
2- Somewhat proficient	4.9%	2.9%	3.1%	4.5%	7.1%
3- Moderately proficient	23.3%	20.6%	21.9%	27.3%	28.6%
4- Very proficient	45.6%	44.1%	50.0%	45.5%	42.9%
5- Extremely proficient	26.2%	32.4%	25.0%	22.7%	21.4%

Within each row, the percentage of respondents who responded "somewhat proficient" and

"moderately proficient" increases gradually with age. This trend is reversed in the rows "very

proficient and "extremely proficient," with 55-64 representing the lowest response rate for both categories. Teachers who were 55-64 also had the lowest average assessment of the positivity of the 1-to-1 technology initiative. In each of the following categories, 14.3% of teachers who were 55-64 responded that they either: neither agreed nor disagreed; disagreed; or strongly disagreed.

Table 4.4. Degree of agreement that 1-to-1 Technology has benefitted instruction in the district cross-tabulated by age. The number of responses indicating disagreement increases significantly as the age of respondents increases.

Age Bracket	Total	• 25-34	• 35-44	• 45-54	• 55-64
Total Count (Answering)	102.0	34.0	31.0	22.0	14.0
Strongly agree (5)	52.9%	52.9%	51.6%	68.2%	35.7%
Agree (4)	25.5%	23.5%	35.5%	18.2%	21.4%
Neither agree nor disagree (3)	8.8%	11.8%	6.5%	4.5%	14.3%
Disagree (2)	6.9%	5.9%	0.0%	9.1%	14.3%
Strongly disagree (1)	5.9%	5.9%	6.5%	0.0%	14.3%
Average	4.1	4.1	4.3	4.5	3.5

Teachers who were 55-64 also had the highest percentage of respondents who were "extremely dissatisfied" with institutional support, but also had the *highest* percentage of respondents who answers "extremely satisfied" with it. The picture is varied, but in every other age group, responses taper off from "moderately satisfied" to "extremely satisfied."

Table 4.5. Answers to question 2.5, level of satisfaction with institutional support, cross-tabulated with age of respondent.

Age	Total	• 25-34	• 35-44	• 45-54	• 55-64
Total Count (Answering)	103.0	34.0	32.0	22.0	14.0
Extremely dissatisfied	2.9%	0.0%	3.1%	0.0%	14.3%
Moderately dissatisfied	6.8%	5.9%	12.5%	4.5%	0.0%
Slightly dissatisfied	5.8%	5.9%	6.3%	4.5%	7.1%
Neutral	12.6%	17.6%	9.4%	4.5%	21.4%
Slightly satisfied	12.6%	17.6%	6.3%	13.6%	7.1%
Moderately satisfied	39.8%	38.2%	37.5%	59.1%	21.4%
Extremely satisfied	19.4%	14.7%	25.0%	13.6%	28.6%

Discussion of Questionnaire Data

This small sampling of teachers in the school district shows a wide variety of attitudes and assessments of digital technology in their work. The overall trend in the data, however, indicates a strong trend toward generally positive views of technology in education, of its implementation, and of respondents' own ability to use it effectively, but a notable number of negative assessments are also present. Distributions in the data, furthermore, seemed to indicate that respondents, when given the opportunity to answer positively, chose measured responses rather than wholehearted endorsements. The use of digital tools in teaching is here depicted as a complex process in which a wide variety of attitudes on different elements of technology integration are present—quite a different picture than the depictions of technology integration in the official documents exhorting educators to adopt digital tools.

Among the more notable trends in the data was an increasingly negative assessment of the effect of technology on instruction, satisfaction with institutional support, personal assessment of proficiency with digital tools, as teaching level went up. In other words, results showed a gradual, albeit subtle downward trend in positivity toward digital tools going from

elementary to high school. Correlations of attitude to teaching level indicate that certain

attitudes of teachers toward digital technology are influenced either by the ages of their students

or the curriculum. Ultimately, there may be any number of factors explaining this particular

grouping of attitudes around teacher age and teaching level, but my previous archival research

(especially in the area of the rollout of Project 7) would suggest that, since the sophistication of

digital technology well as sophistication of tasks and student digital literacies increases with

teaching level, the demands on the instructor also increase in terms of the sophistication of the

tools used as well as the ability of older students to circumvent the boundaries of classwork or

class discipline (itself a prominent theme in teacher responses). This correlation of attitude

toward technology and teaching level arguably merits further investigation (a cursory glance at

the literature on technology integration suggests this connection of teacher attitude to teaching

level has not yet been fully explored), since the teachers interviewed in this study did not teach

high school (with the exception of an experimental charter school which foregrounds technology

use), which means that this phenomenon may not be corroborated adequately with the interview

data I gathered for this study.

In addition to teaching level of respondents, their ages also seemed to indicate a tentative

grouping with regard to attitudes, but with less regularity than teaching level. The group of

teachers who were 55-64, for example, expressed the most explicit discontent (by answering

"extremely dissatisfied" with institutional support), but also had the highest percentage of

respondents who were "extremely satisfied" with their support. The popular concept of "digital

native" is complicated by the results of this questionnaire, given that age was not as effective a

predictor of attitude than teaching level.

Surveys can measure attitudes as they exist in a particular moment, but not necessarily depict the social dynamics and discursive resources whence they come, which means that this cursory picture of teacher attitude toward technology, as it is created using questionnaire data, is fundamentally incomplete. In the next section, interview data is used to establish some of the social dynamics that accompany the uses and meanings of digital technology in this school district as well as key discursive strategies that teachers used in their responses to questions about their use of digital tools for teaching.

Analysis of Interview Data

In this section of the chapter, examples are provided from interview transcripts for purposes of illustration and analysis with the aim of expounding on the social dynamics which underlie the uses of digital technology in teachers' work and the discursive strategies by which digital tools are made meaningful, with special focus on the role of personal background and disjuncture in media ideologies. Tools from **interactional sociolinguistics** are used to investigate the social worlds participants construct as they created situated meanings for digital technology both in terms of their personal backgrounds as well as moments of disjuncture in media ideologies (both between teachers and students and between teachers).

As the strategies that individuals employ are taken to have significance as to the social worlds that they are using to make their discourse intelligible, details of verbal delivery are important to this analysis. I use Jefferson's transcription methods to transcribe the transcripts included in this chapter. (See appendix A for a full list of transcription conventions.) For example, speed of delivery (indicated by inward or outward arrows), intonation (indicated by upward or downward-pointing arrows, pauses (indicated by full stops or numbers inside parentheses), and volume (indicated by all uppercase letters) are all present in the interview data.

Personal Background in Spoken Discourse

In many of the interviews, as participants talked about their uses and opinions of digital technology in their work, they frequently gave brief explanations as to their current state of knowledge of digital tools—that is, how they came to their understanding of those tools. This took the form both of discussions of personal background as well as simple, passing statements describing personal preference or their ages. The way they came to that knowledge, however, was an opportunity for participants to situate technical knowledge in terms of professional characteristics; primarily, these stories functioned to designate positive social values that participants sought to claim for themselves, including "initiative," or "dedication." Indeed, those participants who were younger seemed not to mention their prior experiences with technology except in passing. F, a male teacher in his early thirties, notably, seemed to suggest that familiarity with digital technology is largely generational.

1. F: but I think (.) just like looking (.) <looking at societal trends> (0.5)
2. >and even in myself< like (.) we are a (0.5) we are a (.) people (1.0)
3. I think far too addicted to technology↑ (1.0)
4. um (0.5) and you know my generation (1.0) kind of just barely missed (1.5)
5. like the social media (.) like we were on the cusp of like the social media
6. smartphone age and I think the iPhone came out when I was like (1.0)
7. probably early ↑high school,
8. maybe (.) um maybe late ↑middle school um (2.0)
9. but, like the current generation of students have grown up in that (1.0)
10. and and MY generation is already ↓too addicted to our devices

In line 1-3, the discussion of a need for balance is contextualized by reference to a society, a "we," with a common experience of digital technology that is corroborated by F's own background and its relation to the availability of the iPhone, which is taken as a starting point for proliferation of social media. His own background is made relevant to his point by reference to a

common experience, but in line 3, an upward intonation and a 1-second-long pause also reflects

an acknowledgment that a personal opinion may not be received well. Indeed, immediately

following his claim in line 3, he refers to a particular historical context, his own, in order to set

up the following argument: "if my generation only had a little exposure to digital technology and

is already too immersed in it, how much more so must this generation be addicted to it."

Within the larger context of his interview, F's invocation of his background functions as a

justification for his opinion that too much technology in the classroom is potentially harmful to

students. He describes the reasons for this competence as a matter of timing and also, elsewhere

in the transcript, he notes that he "loves technology"; indeed, he frequently spoke

enthusiastically about digital tools and opportunities to use them meaningfully with students in

his classroom. By situating familiarity and even beliefs about technology as a common,

"generational" experience, F reflects a belief in the "saturation" of digital technology, which

implies the assumption that social and personal health relies on achieving a balance of digital and

non-digital teaching practices. This awareness of an overall saturation of digital media—and the

need to separate from it occasionally—frequently showed up in other passages in F's interview,

even though F is himself a highly-competent user of a wide variety of classroom technologies,

being a teacher of math and robotics.

On the other hand, when those teachers who were not exposed to digital technology

earlier in life referred to their backgrounds with technology, they tended to explain in more detail

how they came to their current state of knowledge about technology. A, a woman who came to

teaching later in life after her three children were grown, spoke about the use of technology as a

consistent struggle in her work. In the below excerpt, rather than talk about herself as picking up

skills through osmosis, she refers explicitly to the struggle that accompanied her learning to use

the sorts of technology in the school district. This excerpt followed A's description of a useful

tool in the classroom that allowed teachers to parse videos. This discussion of background is, in

other words, unsolicited within the context of the interview.

1. A: um (1.0) I am (55-65) next month (0.5)
2. and this has been (.05) a challenge for me↑ I took a course
3. and I actually looked it up before (0.5) um I got on here
4. so I could <u>tell</u> you about it (0.5)
5. um (1.0) the school (.) uh offered the chance for us to participate in this (0.5)
6. and I took I (.75) I took him up on it and it's out of uh (.)
7. um (regional university) and it's called (name of program)
8. do [mm-hmm] you know about ((smiles)) (name of program)↑
9. CB: >yeah yeah I've heard of it<
10. A: >all right well I did that it's been a couple of years since I did it so I've
11. probably forgotten half of what I know< (.)
12. but I did that so (.) because I thought (.) I didn't (0.75) I didn't start teaching until
13. I was (35-44) (1.5) I stayed home with my kids and tried (.) you know to do that
14. for my family (.) so I have to stay here for a while ((laughs))
15. and a <u>lot</u> of teachers my age are like ((high-pitched)) ((raises open palms face
16. out)) we ↑can't learn (0.5) anything on computer so ↑we ↓quit well (0.5)
17. I don't have that luxury (.) [mm-hmm] you know, I <u>have</u> to be here (.)
18. so and I I love (.) you know what I do so I WANT to be here
19. (1.0) so um (.) I took this class so I could learn more about technology↓ and it
20. <u>really</u> <u>has</u> <u>helped</u> me (2.0)
21. and I'm much (.) I'm (.) I'm (.) I'm not near as good as someone (.) your age (.) or
22. younger↑ (.) but (.) for a person my age I'm pretty darn good ((laughs))

There was a marked shift in the tone of the interview just a few moments before this. Up until

this moment, A had not strayed far from the first question in the protocol, talking in detail about

the digital tools she uses in the classroom and their uses. After sharing laughter over the ways

that teachers have to keep step with students who circumvent assignment parameters, however,

the conversation turned to her experiences learning to use these tools, where her background—

especially her age—is made relevant to this process. The frame for this excerpt is established in

lines 1, in which she states her age and uses the coordinating conjunction "and" to link it to an

overall assessment of her uses of digital tools in line 2 ("and this has been (.05) a challenge for me↑"). There is the contextual assumption in this excerpt, then, that higher age means less familiarity with digital tools and greater struggle. Even with regard to the training that she mentions, she states that she has "probably forgotten half" of the content, suggesting that the training is also esoteric or perhaps that she has had a hard time following it. By emphasizing her motivation for attending training as well as situating herself in relation to other teachers who did not want to integrate technology, however, (A uses reported speech to talk about the attitudes of other teachers, casting noncompliance as "giving up" in line 16) she establishes positive face by referring to her love of the profession in line 18. In lines, 1, 15, 21, and 22, age is equated tacitly with familiarity with digital tech, but this increased difficulty is also an opportunity to express commitment to her work—her supposed lack of familiarity with digital tools is described as an obstacle which she overcomes. Indeed, "being here" (see lines 17-19) seems in this passage to rely on her willingness to learn to use digital technology. She is presenting herself as someone who has had to work harder in order to arrive at this needed competence in digital tools. By doing so, and by showing how others had "given up," she claims the value of dedication for herself as a teacher.

In this excerpt, the narrative that A creates invokes a familiar discourse on age and technology (the assumption that the greater a person's age, the less-likely they will be proficient with digital technology) in order to **self-efface**; this self-effacement is strategic, however; she balances this self-effacing strategy by claiming positive values of perseverance and dedication (i.e., "I love what I do" in line 18) which in turn helped her to reach her current state of knowledge (line 21-22). The sum of this strategy is that A displays a particular professional value that teachers in this sampling frequently mentioned—"making do" with limited resources.

C, who is close to A's age and also came to teaching later in her life, likewise depicts

digital technology in terms of a pending obstacle. In answering a question about technological

difficulties, she takes time to give context to her answers by discussing first her background,

which is mentioned only in passing, and then focusing on the details of her training and master's

work:

1. CB: What have been the difficulties related to technology that you that you have
2. experienced?
3. C: well (.) being (.) >not a necessarily career teacher<
4. I've always been (.) open-minded you know
5. to (.) have not been set in old-school ways I guess you could say (0.5)
6. um (.) and when I <u>did</u> get my master's um (.)
7. <u>I did</u> have to take an education <u>technology</u> class
8. >but you know you keep in <u>mind</u>< someone like <u>me</u> (.)
9. did not grow up with (0.5) phones↑ (.)
10. >you know and things like that<
11. so just kind of the beginning of (0.5)
12. you know (.) getting around (.) just the basics of (.) you know (1.0) ((exhales))
13. >cutting and pasting or< (.) you know=being able to create (.) um something
14. and it started slow↑ in that sometimes it was kind of remediation
15. through programs like ((name of educational program))↑
16. that you know was already kind of set up for me (0.5)
17. and <u>really</u> my first year as a virtual <u>teacher</u> um
18. I really had to become um (1.5) familiar with uh (1.0) um (1.5) how to create
19. curriculum↑ and be able to (2.0) develop assignments↑
20. (0.5) and things like that that could be (.) fully integrated=you know
21. >it started small like with just a Google doc and they might ↓write something<
22. or you know they went to this site (.)
23. and <u>then</u> it's become you know the creation of (1.0) ((name of educational
24. platform)) (.) that's one of my favorites=I don't know if you're familiar with
25. ((educational platform)) um [heard of it yeah] and (.) um (.)
26. I (.) I like (.) um that format and actually (.) um (0.5) ((name of RTTT manager))
27. was a big (.) proponent of ((name of educational platform)) several years ago and
28. I did do some PD on that↑

My question that prompted the excerpt mentions such external and technical problems as

"hardware" or "support," but C, by referring to her proficiency with digital tools, speaks of

problems as issues of training and expertise. That C chooses to discuss background—that is, give context—suggests that age or background presents relevant or at least interesting bearing on the question of "difficulties," these having to do with the process of learning to use technology. There are clues as to the assumed social value of this story, however, in lines 10-15, in which C prefaces her description of her training. She mentions that she was at the "beginning" and at "the basics," and moves eventually to a culmination of her skill, a description of more fully autonomous use of digital tools. The mention of "scaffolded" lessons in lines 10-15 was prefaced with a remark in lines 8-10 that she had had little experience with digital technology up to this point, that she had not "grown up with phones"; the impression management is signaled here by the phrase, in line 8, ">but you know you keep in <u>mind</u><". Here, C's hedging strategy indicates that the initial lack of knowledge of digital tools is "without excuse" (i.e., there is no immediately available narrative with which to valorize it or given an acceptable explanation). The way that this knowledge is gained (through master's work, professional development, and the suggestion of "on-the-ground" learning in lines 17-20), however, places this initial lack of knowledge within a narrative which "redeems" the previous lack of technical knowledge and sets it up almost as an obstacle to overcome. She ends this mention of her learning process by going on to describe the tools that she uses currently, and indeed goes on to discuss, in the next section of the transcript, some proprietary programs that the school district had created in response to student need—and C ends by discussing which digital tools are being used effectively and meaningfully.

Across the interviews, discussions or mentions of personal background were often used to give context to statements about training or the uses of digital tools, but in such a way that it gave context to the tasks related either to learning new tools (in the case of A, B, and C) or to

back up opinions on technology (in the case of F). It was interesting to me that more seasoned

participants were more readily willing to talk about the role of their personal histories in relation

to their learning; this suggests to me that, among these participants, age and length of time in the

profession was purported to have a limiting or enlarging effect on what they can be expected to

know with regard to digital tools and how difficult the task of learning is.

As a discursive strategy, invocation of personal background was an important resource

by which participants **contextualized** their opinions and experiences using technology in the

school district. These mentions of background, furthermore, situated the speaker within (or

without) an assumed "window" for participation in the category of "digital native." The idea that

age accompanies a certain amount of familiarity with digital technology was a functional

assumption in most of the interviews. This was corroborated by the fact that younger

participants, like E and F, did not mention their backgrounds in relation to their current standard

of knowledge (although E does mention in a later excerpt how she learned to use a particular

program with help from a teammate), while older participants offered, unsolicited, mentions of

their backgrounds, credentials, and training in technical skills. The fact that background kept

surfacing in answer to all different kinds of questions, too, is itself significant in that

explanations of current states of knowledge (and the ways it was gotten) were deemed central to

the respondent's experiences with technology in the school district.

Overall, technical skills are arguably highly-valued in the data presented here. Offering

context for these skills was a way that teachers claimed value for themselves. the display of

technical knowledge was important for establishing face—and when that knowledge was not

advanced, participants engaged in impression management to establish 1) why they did not have

that knowledge and 2) to claim other positive values for themselves. There were apparent

hierarchies of value, however, present in these passages—the use of hedging strategies suggests

that technical expertise is itself understood as a professional value among these individuals, as

reflected in A's statement that "being there" as a teacher meant willingness to learn new tools.

This suggests that there is a tacit narrative in the "social worlds" of the participants that not being

adept in digital tools is not only "frowned upon" but is an admittance of lack of professionality.

In other words, **technical skill is equated with professional values of teaching.** Teachers

may—and did—speak about the ill-effects of technology, but they avoided admitting

incompetence in it, too. There is perhaps a correlation between this strategy and the overall

answers in the survey to "felt proficiency"--there were no respondents who referred to

themselves as "not proficient at all" in digital tools, while a notable number displayed negative

attitudes toward these tools in terms of support and effect on students.

Disjuncture in Media Ideologies

The last category in this analysis focuses on the frames that are constructed around

depictions of **disagreements or miscommunications** about the use or meanings of digital tools.

Here, I look at the contextual presuppositions that participants bring to these passages, and I take

the excerpts as illustrations of the ways that media ideologies are presented in spoken discourse

as well as their social significance in this research site. Here, I analyze 2 instances of disjuncture

between 1) students and teachers and 2) between teachers.

A Story of Student-Teacher Disjunction.

In the passage previous to the excerpt below, A described the measures that teachers in her

school took to ensure that students used their devices safely, including staying away from chat

rooms. This comment prompted a shift in the discussion and the following story:

1. you know we had (.) >I'm gonna tell you this story=you're gonna get a kick out of this<
2. So (.) we had a girl. a (.) a student who was on the spectrum (1)
3. and this girl (.) is smart ↓
4. um (.) in the spring of ninth grade the last nine weeks of school
5. we do a simulation for um personal ↑finance.
6. And (.) they have to draw out of a hat and they get a (.) ↑job
7.   and they get a ↑salary to go with that job
8. and they buy a ↑house buy a car or rent an apartment
9. They pay (.) you know pay to set up a budget pay bills(.) the whole thing.
10. This girl goes on (2.0) ((looks away, counts on fingers)) ((quietly)) Facebook (.)
11. ↑marketplace (1.0) and then she also went to (.) car dealerships
12. and SHE HAD THESE (.) salesman (.) CONVINCED (.)
13. >that she was going to buy a car< (1.0)
14. ((laughs 3 sec)) and we had to literally (.) take her away from the computer
15. and she had to finish the year on paper because we couldn't keep her from (.)
16. starting con jobs con (.) you know (.) cons on people
17. so you ((laughs)) [oh my gosh] how can you even keep up with that ((both laugh))
18. Thank goodness she wasn't my student or I don't know what I would have done (1.5)
19. ((CB laughs))
20. but we got I got a kick out of that I was like (1.0) ((softly)) ↑oh-↓kay
21. and I don't (.) she's in high school now and I still don't think her parents allow her to use
22. a (0.5) a laptop without them sitting right there beside her (2.0)

A creates a frame for this story in line 1 with the phrase "I'm gonna tell you this story=you're

gonna get a kick out of this," indicating that she means this to be a humorous story. The

significance of the story for the analysis, however, arguably lies in the way that the student is

shown to be "aberrant," specifically in the ways she is contrasted with the goings on of a typical

school day. Beginning with a description of the student in lines 1-3, A then goes on in lines 4-9

describing the assignment in strictly logistical terms (i.e., what is done in the assignment). She speaks in simple present tense about the assignment, indicating regular application and outcomes, the activity being described in line 4 as a regular and established process. The student is shown aberrant in line 10, not so much in tone, which is generally even, but by contrast to the description of the assignment and an indirect reference to "we" in line 5 and "they" (students) in lines 6-9. The description in lines 10-16 is dramatized, with emphases indicated by volume and pauses (see line 12 specifically), with the resolution arriving once teachers and parents become involved. This story marks the student as "aberrant" by marking her actions in line 12, but never does so explicitly. The contextual presupposition needed to mark this student as behaving outside of a norm relies not on knowing the content of the act itself, but on the contrast created between the "normal" execution of the assignment and the individual actions of this student. The supposition is that if something is not done according to the bounds of the assignment, it has passed into aberrance. The hierarchy of the classroom with its instructions and outcomes, in other words, is used to make sense of the student's actions. By extension, any and all skills that are not used pursuant to the ends of the assignment are potentially subject to the same treatment in discourse.

A also indicates the social significance of this story in line 17. There, she applies the story to the situations that teachers face, putting it in the form of a rhetorical question, "how do you keep up with that?" What is the "that" that she is referring to? It is not skill—the student is "smart" (line 3). The "that," based on the way she has placed the student in the context of the classroom and the assignment, is a non-technical aspect of technology use, the things that are appropriate to do with it. This story is presented as an indication of what teachers face when students don't have the same beliefs or assumptions about the uses of technology.

The ways that A creates a frame for the story (by invoking the hierarchy of the classroom as a way to judge appropriateness of the use of digital tools) construes the uses of digital technology in ethical terms, not in terms of ability. This particular type of nonconformity is equated not as lack of skill but as the misapplication of those skills—that is, as inappropriate beliefs.

A Depiction of Teacher-Teacher Disjunction

As previously demonstrated in discussions of teacher collaboration, there is "room" within this professional community for varying skill levels with regard to digital tools. Indeed, these disparities are incorporated into the relationships of teachers. When the attitude of teachers, however, is recalcitrant—when their media ideologies are aberrant—the usual face-saving strategies are not present (I recall, for example, A's description of other teachers who "gave up" rather than learn to use digital tools. The passage below, taken as an example, casts a disagreement about the uses of classroom technology in terms of the value of student engagement.

B is a career teacher, in her mid-thirties to early-forties, whose extensive experience with technology goes back to her early days with the district. She is actively involved in supporting her fellow teachers in their use of digital tools and spoke more than once about how she solves her own technical problems rather than rely on the school or district for support. In this excerpt below, a teacher, with whom B is relatively familiar, is depicted in a passage of reported speech resembling a confrontation. This excerpt follows a brief description of teacher resistance to top-down mandates regarding technology use; this person's classroom practice is described by B as

"paper and pencil." Here, she recounts a conversation and a general shift in the amount of technology being integrated:

1. B: I was like <u>dude</u> (.) I don't understand=why are you not (.)
2. you know, why are you not <u>doing</u> this
3. and so (.05) ((rolling gesture with hands)) <u>slowly</u> over the last three years
4. ((they've)) gained more and more tech and ((they've)) gained more and more of
5. the websites that I <u>use</u> and th::e random crazy videos that I <u>send</u> ((them))
6. or things like that=but it (0.5) it's been that slow increase that ((they)) (1.0)
7. as ((they)) find it and put it into (their) curriculum
8. it gets more and more <u>interactive</u>

The tone of her reported speech in line 1 is not vehement and is made to resemble a friendly "calling out" rather than a confrontation. This moment of reported speech in lines 1 and 2 are spoken in a low tone and seems to resemble genuine confusion rather than the imperiousness typical of a rhetorical question. Arguably, this passage was not necessarily depicted by B as a face-threatening act (FTA), a moment in which the positive social value a person claims for themselves is not acknowledged or threatened by the other party, because of the relative closeness of the individuals and because of the apparent compliance of the other teacher. But this "paper and pencil" approach to teaching seemed to merit this confrontation to begin with, and the question B puts to the teacher in line 1 merits a closer look: "I don't understand why are you not... why are you not doing this," implies that the tacit expectation of digital tool use and resources to use them are apparently available, and the only thing missing is a willingness to integrate it. This confrontation focuses on that willingness while also construing it with the engagement of students, a prominent discursive strain in depictions of educational technology. The contrast from line 2 to 3, however, requires a conceptual "jump," the reception of this confrontation being assumed rather than included. That the changes in this person's

practices are made to seem "natural" after this conversation in line 3, as though the force of the

argument was self-evident and the progression of "paper and pencil" to "more and more

interactive" is a natural one, requires that technological integration be taken as a learning process

equated to the advancement of digital technology itself. The use of digital tools, in other words,

is treated in this narrative as subtly inevitable. Given this seeming inevitability as well as its

professional applications (see line 8), a lack of ability perhaps being more acceptable, an

unwillingness to make use of digital tools, given the time and means, is referred to in tacitly

deprecatory terms by highlighting a professional value (student engagement and dedication,

respectively) that was not being realized. Non-compliance in excerpt is depicted to be at once

willful and a dereliction, but also as a part of an existing narrative in which teachers slowly come

to "gain" more and more technological prowess.

In contrast to the sites of disjuncture between teachers and students, which were

conceptualized (by references to social worlds in which students' beliefs about technology were

obstacles to learning) as problems originating out of home life, culture, and society large writ

(and therefore outside of the purview of the schools), aberrant media ideologies in teachers were

often conceptualized as conspicuous departures from the professional values of student

engagement and dedication.

Discussion of Interview Data

Media ideologies in spoken discourse

Using tools from interactional sociolinguistics, it was discovered that the ways that

teachers' media ideologies came out in spoken discourse was by reference to professional values

as well as public discourses on technology and development. **Teachers' processes of creating**

situated meanings for digital tools arose largely from indicating different contexts which

acted as discursive resources for their statements, including discourses on digital technology and development, signaling professional values that they claimed for themselves, and the hierarchical structure of the classroom. As teachers described their opinions and uses of digital tools, the social worlds that they referred to in their discourse were such that proficiency in these tools was itself a matter of professionalism for teachers, but a matter of character for students. Indeed, the ways that teachers situated themselves with regard to their technical skill suggested that this skill itself was taken as an indication of professionalism or dedication. The pressure that teachers felt to use digital tools a certain way was indicated by their descriptions of professional values, including providing access to students who were not able to come to school because of the COVID-19 pandemic and engaging students with multimedia content. Technical ability was signaled as a positive social value in the interviews, with interviewees frequently speaking to the processes by which they came to their state of knowledge. This social value, however, was not something that all participants could claim. When they could not, they portrayed themselves in terms of other positive values, namely "grit" (i.e., "resilience," "perseverance") and humility as they learned to use these tools.

The actual experience of technology integration into a public-school classroom, as it was depicted in these interviews, was not as seamless as it was made to seem in official sources. **Personal backgrounds, relationships with other teachers, teaching level, and age all affected the beliefs that underlay teachers' practices and experiences with digital tools**. The use of digital technology was, however, a fact of daily life for these teachers, whether or not they felt proficient or supported. Using digital tools was depicted as time-consuming and complex even by teachers who were admittedly "tech-savvy."

The assumptions that teachers used to make sense of their own practices regarding digital technology were not far removed from those observed in previous chapters in this dissertation—engagement, access, speed, all came up as explicit advantages of digital tools. What also came up in interview data, however, that tended not to appear in overtly promotional materials, were teachers' reservations about the unreflective use of digital media in the classroom. Teachers tended, by and large, not to accept wholesale the suggestion that use of digital tools will solve longstanding problems like student engagement but instead indicated that teachers need to begin countering the digital habits that students come by "naturally" at home, especially in younger children; these passages frequently made use of public discourses on digital technology and development.

Depictions of Disjuncture in Media Ideologies

An analysis of the ways that disjuncture in media ideologies was presented also indicates a clear social distinction, in this data, between skills with digital tools and beliefs about digital tools. Whereas a lack of skill was forgivable, the wrong attitudes (i.e., noncompliance) were treated as disciplinary or professional problems. **Aberrant belief about digital tools, in short, was treated far more seriously than lack of skill.** Teachers frequently gave indications that the ability to use digital tools in the classroom was tantamount to such teacherly values as dedication to students. In other words, lack of knowledge or proficiency in digital tools was forgivable if buttressed by grit and a willingness to learn it; but a recalcitrant attitude and unwillingness to learn was subtly depicted, when it was depicted at all, as an issue with professionalism. There are socially-situated punitive measures in the discourse of teachers for those who do not share in the media ideologies depicted here; technical skill having attained the status of a professional value,

a recalcitrant attitude was construed in the data as a dereliction of responsibility. It is not the skills that are the subject of this punitive discourse, but their attitudes, their media ideologies. Unwillingness to learn was suggested to be a serious fault in a teacher; but in the case of students, the assumed sources of this disjuncture between teacher and student were much broader and perhaps more significant. When teachers depicted student-teacher disjunction, they frequently referred to public discourses on technology and development, but what this analysis depicted was how the hierarchy of the classroom was invoked as a contextual presupposition by which to judge the appropriateness of a digital practice. This meant that aberrant beliefs about digital technology were frequently talked about as social obstacles to learning (not unlike truancy or free lunch programs) in that they are not necessarily taken as individually-based but represent social problems that stand to undermine student learning. Whereas skills can be taught, belief about technology is talked about in the background of this discourse. That the presence of "faulty" beliefs about technology both in teachers and students were addressed only tacitly meant that these beliefs required no validation or defense, but were merely obstacles to learning or to effective teaching. By situating student belief as an obstacle to learning, any and all belief about digital tools or media is thereby stripped of its political content and made to seem "natural."

PART IV: CONCLUSION

Previously in this dissertation, written texts from institutional authors—the USDE and staff members of the school district, respectively—were analyzed as to the way that they confer value on particular uses of digital technology and thereby promote particular attitudes or beliefs in the efficacy of educational technology. In written materials (such as were studied in chapter 2 and 3), media ideologies that would oppose the wholesale implementation of digital technology in schooling are only tacitly mentioned—they are present by means of subtle intertextual

references, but are placed firmly in the background (see especially chapter 2). To take these texts

at face value, technology integration is a matter of making instruction simpler, faster, and more

democratic. In this chapter, however, when the experiences and discourse of teachers regarding

the use of digital technology was put into focus, this picture of technology integration is made far

more complicated. It was discovered that, in the given sample, even teachers who accept its

status as an "everyday tool" have a generally—but not entirely—positive view of the use of

digital tools in schooling. These attitudes, as described by survey data, were complicated by

interview data, which gave indication of the social dynamics by which teachers use digital tools

in their work.

In this chapter, the picture of an institutional media ideology is elaborated in terms of its

on-the-ground implications for teaching practices. The data in this chapter was found to

corroborate my claims in chapter 2 regarding the creation of "institutional rhetorics" for

technology. The texts studied there, by construing technical skill with professional values such as

"student engagement" and "student connectivity," constructed an "institutional media ideology"

by which to produce discourse about the proper uses of technology—that is, as student-centered

and concerned with the quality of "learning" and as a means to realized positive value associated

with education. This institutional rhetoric, at the level of public texts, does not judge or condemn

aberrant media ideologies directly or even mention them, but the discourse of teachers indicated

that these aberrant media ideologies at the level of individual practice are indeed taken seriously.

By defining "good use" of digital tools in terms of student outcomes, by which technical skills

becomes a part of the constellation of teacherly values, such texts also create a definition of "bad

use," which then, as seen in this chapter, is treated in spoken discourse as a dereliction. The

punitive measures focusing on aberrant media ideologies is thusly argued to begin at the level of

public texts, and acts on the individual practices of teachers by **redefining what values teachers feel the need to claim for themselves**.

It was also the ways that sites of disjuncture were incited into discourse that give some indication of the ways that media ideologies clash—as well as the implications of these clashes. Disjuncture in media ideologies meant different things for different participants, but were treated as serious infractions of either professional values in the case of teachers or background in the case of students. We can look at the sites of disjuncture, in other words, for clues as to the formations of situated meaning that technology is given as well as the role of power differentials between participants. The assumptions about technology, education, and students that were made a part of the contextual presuppositions of a teachers discourse largely relied on the social relationships of the participants: student to teacher; teacher to teacher; teacher to staff member; teacher to teacher from another school. In each case, a different set of assumptions was used to form the situated meanings of technology use and designate it "good" or "bad."

From a methodological point of view, this chapter also illustrates the need to supplement quantitative data with passages of qualitative data when attitudes are under investigation; whereas survey respondents tended to give positive answers regarding their attitudes toward digital tools, these ways of reporting attitude rely on self-reportage of the content of these attitudes. Potter and Wetherell (1987) note that discourse analysts accept that attitudes are heavily context-bound—they do not assume that an attitude expressed in one piece of discourse in a particular context would necessarily arise in another. They note a number of problems with traditional studies of attitude, including: the concept "attitude" assesses an object, which in the case of the term "technology" is an amorphous and vast category; the "dubious translation of participants' terms to analysts 'categories (p. 53); and the assumption that attitudes are

underlying entities that are context-free. They suggest that a discourse analysis approach, however, looks at discourse itself as a behavior. A person, for example, may identify themselves as "not a racist," and yet espouse virulently racist comments without any sense of an internal contradiction. Choosing to study the ways a respondent situates themselves in discourse is by no means a "purer" way of getting at their attitude but is rather the acceptance that a person's discourse is the product of a behavior itself, not an inroad to their motivations.

Looking solely at the survey data, researchers may well conclude that there is an overwhelming majority of teachers who wholeheartedly endorse the uses of digital tools in the classroom and are content with their institutional support and their own competencies. In the interviews and open responses, however, these same individuals who self-report as "in favor of technology" also espoused reservations about wholesale, "unreflective" integration of technology into the classroom. Understanding the behaviors of educators regarding digital tools is not simply, I argue, a matter of gauging their openness to such an amorphous category as "technology," but ways that educators make sense of digital tools in-context by means of discourse.

The approach to institutional media ideologies taken in this study points at the need to treat them as fluid and myriad not only at the level of institutions (as was suggested in chapter 3), but also at the level of the individual. Someone who may identify themselves as "in favor" of technology may well speak "against it" as well as act "against it." Integration of technology, taken from this point of view, is not just the interpolation of people's stances toward it, but is, as I also found in chapter 2, a matter of strategically constraining further discourse about technology through the codification of particular discursive resources, including highly-situated views of the future and of the role of schooling in a society.

CHAPTER 5—EPILOGUE: DISCOURSE, MEDIA IDEOLOGIES, AND THE POLITICS OF EDUCATIONAL TECHNOLOGY

As embedded as technology was shown to be in public education, the ability of institutional discourse to shape stakeholders' experiences of it become an important consideration. The different sources of data that I analyze in this dissertation show not only how individual texts create situated, strategic meaning for technology, but also how those media ideologies, as they are institutionalized, shape the ways that stakeholders interact with and conceive of that technology. In this dissertation, I have offered yet another example of the ways that structured means of creating discourse end up creating, in part, the social worlds in which we live. That I took a public institution as the subject of my analysis, however, means that the political implications of its media ideologies represent a public concern (i.e., that the distribution of social goods may potentially rely on tacit assumptions about technology use). This final chapter, accordingly, establishes the implications of my findings in relation to studies of discourse and studies of digital literacies. It is argued ultimately that a view of media ideologies as discursive processes can illuminate the political and social valence of otherwise "banal" discourse on digital technology in the context of public schooling and thereby demonstrate the need of educators, lawmakers, and public planners to approach critically and soberly the ways they speak about, write about, and otherwise present technology. Specifically, there is a need to view the production of meanings for technology as highly situated, given that the professional domain of public education was implicated in much of the meaning-making processes in the texts analyzed here.

The dissertation's analyses of the media ideologies circulating among stakeholders of a school district in the American Heartland demonstrate that a discursive view of institutional media ideologies is indeed appropriate for describing the myriad and often contradictory ways in

which technology is incited into discourse and in turn becomes meaningful in the lives of individuals. What the analyses show is that it is not only prescriptions of practice that constitute media ideologies (such as regulations and training), but also descriptions of practice (as seen in chapter 3) and the invocation of the professional values which underpin them (see chapter 4). Views of institutional media ideologies as discursive processes also provided insight into the ways that they are reproduced and become more powerful—that is, how they are institutionalized. The different chapters in this dissertation each looked at texts from different sites associated with the production of discourse about technology in public education: federal agencies, local school district offices, and the spoken discourse of teachers. There was little indication that discourse on technology was "constrained" in the sense that certain phrases or viewpoints were "out-of-bounds," but the ways in which digital technology was depicted in terms of practice favored certain discursive strategies which were notably consistent across different texts. Taking a long view of this analysis, I find support for the idea that the media ideologies present in NETPs are indeed functioning as institutional rhetorics in that the same process for ascribing meaning to technology use—that is, by situating digital technology as a means for achieving professional or social values—also appeared in the discourse of teachers and was even used to ascribe negative value to teaching practices. Institutional media ideologies were also found to be strategic in that they affected the boundaries of meaningfulness in discourse about technology. The social basis of institutional media ideologies, furthermore, was especially illuminated by looking at sites of disjuncture in media ideologies, or more specifically the ways that these sites were described: in institutional texts (such as those studied in chapters 2 and 3), these sites of disjuncture are "sanitized," such that resistance to technological integration is not addressed or depicted, with only positive examples given; in chapter 4, however, it was

suggested that non-compliance with the media ideologies of the school district were conceptualized as professional shortcomings. If there was "institutional pressure" to use digital tools in a certain way, it was most apparent in the regular, patterned ways that the "promises" of those tools became functional assumptions both in the texts that described their uses and the values that teachers claimed for themselves in their work.

The ways that I have chosen to study the localized meaning-making processes of technology integration (i.e., critical discourse analysis and interactional sociolinguistics) are not able to exhaust the ways that individuals engage with technology or even the ways that they speak about it. Indeed, the diffuse resources and strategies that students, teachers, staff, and the public use to talk about technology cannot be "mapped" in their entirety. This analysis has sought to demonstrate, rather, that the processes by which technology is given meaning are highly situated both in terms of research site and professional values, such that media ideologies need be analyzed not only in terms of widespread public discourses or public texts, but also localized examples. Case studies and ethnographic investigations (see especially Rafalow, 2020) are needed for studies of discourse on technology in addition to the more common study of public documents (i.e., advertising, news coverage, law) or indeed attitudinal research on the integration of technology (as seen in the discourse of teachers, the ways that technology was conceptualized was considerably more complex than a response offered in terms of a Likert scale, in that teachers often voiced concern over digital saturation and its effect on students in spite of generally positive attitudes toward technology). Indeed, public discourses are not all taken up and used in the same way—their impact on the lives of individuals is itself much more complex and requires more attention than it has been given in studies of discourse on technology and technological change.

Theoretical considerations: Domains and the construction of institutional media ideologies

This study, by focusing both on the discourse of a federal institution as well as a particular professional community in the U.S. Heartland, yielded some general observations that can be used to illuminate the processes by which discourse about technology produces situated meanings. To illustrate the need for conceptualizing contextualization processes for discourse about technology, I use the following sentence:

He sat down at the computer.

There are a number of deictic elements in this sentence, including the third-person masculine pronoun "he" and the use of the definite article "the" to describe the computer, which denotes prior mention or previous knowledge by the reader. There are a number of assumptions, however, that are fairly "safe" (subjective as that is) to make: the subject identifies (or is identified) as a male; it is probably a chair that he sits down in; it is likely either a desktop Mac or PC, or a laptop Mac or PC. But this is about all that I can assume without inferring aspects of the context that step into the political realm: whether he is doing work or at his leisure; what kind of work is being done or manner of leisure; how clean the desk is; what his race or ethnicity is; whether his personal life is such that he is able to concentrate fully on his work; how new or old the machine he is using is; whether he has his own office whether he is working with hundreds of other people... all of these implicatures rely on the context used to make sense of the practices and, notably, they have explicitly political valences. In other words, **the contextual presuppositions by which technology use is given situated meanings unavoidably have a political aspect**. What is deemed "normal" in technology use is a function of ideology, not of truth or even of good practice, and this function is encoded in the ways that speakers use context to arrive at situated meanings for technology use.

As demonstrated in this dissertation, the political valence of discourse about technology derived largely from the processes of contextualization from which situated meanings for technology were made. But there is yet another question that needs be answered: what shared context can reasonably be assumed to be available to members of an institution or professional community?

Here, I reiterate a cursory theoretical explanation for the coherence of institutional media ideologies. It is posited that institutional media ideologies are made coherent by reference to bounded constellations of professional values and relationships. The term I use for describing this constellation of values and relationships is that of "**domain**" (given that this community exists outside of more "organic" boundaries, such as those of a speech community, culture, or subculture). The term is elaborated most fully by the work of Joshua Fishman, who applies the term in studies of multilingual communities and settings. It is, I argue, a useful term for describing how values come to be encoded in a local institution and among a set of dedicated professionals. There is a link, then, between organizational structure, the social relations of its members, and the discourse practices that sustain and modify the media ideologies that exist at its various levels.

In sociolinguistics, the term "domain" often refers to "a sphere of activity representing a combination of specific times, settings and role relationships, and resulting in a specific choice of language or style" (Swann *et al.,* 2004). They are, more broadly speaking, organizing principles for behaviors that provide these behaviors socially-derived value and significance. Domains are not a type of place in "objective reality," in other words, but a heuristic for grouping communicative behaviors. When domains are used in terms of textual analysis, however, several methodological questions suggest themselves. Do texts count as "situations" that can be defined?

What could be the function of a domain in a text, since the reader may be in any number of other socially-defined situations as they read? An answer to these questions must begin by accounting for the role of context in the ways that texts are made meaningful; this study has done so by treating domains as rhetorical resources in texts that are a part of larger processes of contextualization (i.e., "creating contexts" amenable to specific discursive aims); this means that texts, arguably, may simultaneously invoke or recreate domains and their respective "rules" and values—specifically, the values of institutions. In this analysis, I treated domains as rhetorical resources undergirding the creation of media ideologies both in terms of the invocation of specific value sets and a means of addressing specific individuals. Most important to emphasize here is that, in constructivist studies like this one, "domain" is considered an operation by the interlocutor, not a given. It is, in other words, rhetorical, as an interlocutor must often, in a sense, invoke a domain as background to one or another communicative act as a part of processes of contextualization.

Domains, as previously suggested, may be invoked in texts by means of contextualization, the ongoing creation of context in discourse, but this is no less a political choice than a speaker's choice of language; no speaker has a complete or "correct" picture of the context of a piece of discourse but can only argue for a personal version of it. There is no aspect of the context that is "given," especially in such fundamental-seeming domains as "work," "home," or "school"—these are deeply and irrevocably cultural institutions and are either negotiated in discourse or function in the shared background of an utterance.

Domains, additionally, are used not only to confer value on one or another behavior (as "appropriate" or "inappropriate"), but also to constrain the meanings that are able to be formed in one or another text. It is partially for this reason that the creation of media ideologies within the

context of schooling is such an interesting subject for study, given that the creation of media

ideologies also involves invoking the values of an institution (school) while also interpolating

specific people, places and times, thus becoming "localized," similarly even to the ways that

multinationals may "localize" their brand or human resources departments, educational

institutions may arguably speak of their contexts in such a way as to address a specific group of

speakers, values, and locations, thus giving media ideologies salience in specific situations.

Consider, for example, an entry from the school district's live feed posted in the month of

November, following the theme of "Thanksgiving":

We are thankful for technology to be able to communicate with our families! #WeAreThankful.

The post is accompanied by a photo of a staff member with the following text:

I am thankful for technology. It's really important this year that we have technology. My husband's family lives so far away and we still communicate with them even when they can't be here with us." (In the photo, the staff member stands in a school hallway with a colorful mural in the background.)

In this posting, technology takes on very specific meanings, and multiple ones, even. The most

obvious domain created here is the "home," indicating a set of practices focused on domestic

interactions and personal connections; on the other hand, (1) the school district's publishing of

the post, (2) the staff member speaking as a representative of the institution, and (3) the assumed

and equal presence of technology in the school system all contribute to a specific understanding

of what technology means and is used for—in this case, even the "domestic" (non-professional)

uses of technology are contrasted with professional, "productive" ones by the very mention of

domestic uses from within professional ones. Within this small text, multiple domains are in use as textual resources, each of them giving meaning to "technology."

In sum, an adequate understanding of institutional media ideologies as discursive processes requires that the researcher view their context, locale, and community as communicative resources, not merely as concrete situations that act as constraints upon discourse or behavior. As texts create or otherwise make use of local and institutional contexts for technology in their construction of the object, they may also bring along the assumptions and normative values of that organization. It is in this sense that specific processes of contextualization are vital to an understanding of media ideologies as localized discursive processes.

Media ideologies and the Politics of Digital Literacy: Spreading a New "Literate Mentality"

Having argued that media ideologies are complex, largely tacit processes relying on contextualization with reference to public discourses on digital technology and on professional values, I would further point out that media ideologies in schooling need further attention, in that disjuncture in media ideologies has expressly political consequences wherever the power of stakeholders is unequal. In this way, this study of institutional media ideologies has implications for understanding the political dimensions of digital literacy as it is propounded in public schooling (as opposed to the "home-based" digital practices of students). In so far as institutional media ideologies are deeply influential in the processes and expenditures of compulsory education in the U.S., they command a degree of communicative competency required to negotiate the competing interests of educational stakeholders, even to the degree that shared cultural assumptions about the uses of digital tools have the potential to be used as a form of

gatekeeping wherein success relied in part on experiences with digital technology—experiences which were culturally variable and partially reliant on race, socioeconomic status, location, and age. In this analysis of institutional texts and spoken discourse of teachers, the media ideologies were part of the repertoire of communicative competencies by which an individual, whether teacher or student, was judged "adequate" or "not adequate" in a given activity. As with shared languages, shared media ideologies are increasingly necessary for success in schooling—but this adherence to a dominant media ideology, as part of a personal and cultural repertoire of behaviors and beliefs, is also a political choice. The use of English as the primary language in public schooling in the U.S., for example, ostracizes millions of students who have not been regularly and meaningfully exposed to it in their homes and communities. While I would not argue that adherence to dominant media ideologies is as important to success in schooling as having particular language skills, the "invisibility" and elision of non-mainstream media ideologies arguably affect student's ability to complete classwork and engage meaningfully in their work (one example being the manner and timeliness of student engagement with email and classroom notifications). Barton (2010) points out that educational institutions, by promulgating "schooled literacies," affect which definitions of literacy are accepted by a particular group of people, thereby influencing the ways that particular kinds of media use are valued or devalued. Because digital literacy holds a certain amount of privilege in contemporary official and personal discourses on education, the power differentials among stakeholders need to be more sharply delineated when considering how media ideologies are disseminated, altered, and circulated. The study of media ideologies needs careful attention alongside such issues as language in public schooling, as disjuncture in the media ideologies of students, teachers, and administrators has implications for the success of students.

Beyond student success in school, however, the study of institutional media ideologies also provides a useful framework for the cultural politics of educational technology. The official spread of literacy, beyond being a public good, arises out of an economic and political drive for conformity—the creation of a national, reproducible way of being. Indeed, Arnove and Graff (1987) note that one of the key "triggers" of literacy campaigns is the "political will of national leaders to effect dramatic changes in personal beliefs, individual and group behaviors, and major institutions" (p. 5). Widespread institutional media ideologies are not purely benign any more than were the literacy campaigns of the 20th century, in which governments sought to create a homogonous, "national" population in lieu of localized or ethnic identities; as historians of literacy such as Graff and Kaestle have pointed out, literacy is as much a consolidating impulse of modern governments as a means for personal empowerment. The institutional media ideologies which underly the proffering of digital literacy in public schooling likewise need to be understood as a key part of this political project.

Historical studies of literacy have some important insights to bring to this discussion, specifically the rhetorical nature of new literacy practices and the slow, often piecemeal growth of new "literate mentalities." As I argued in chapter 2 of this dissertation, the rhetoric of powerful institutions concerning educational technology suggests that there are expressly political aims underlying the creation of media ideologies in schools across the United States. Specifically, institutional media ideologies are arguably a part of the study of the "ideological backdrop" that contribute to the situated meaning of individual literacy practices, affecting as it does the meanings of digital tools' uses. Furthermore, any shift in the "literate mentality" of a populace is a matter of rhetoric and incentive rather than a "natural" progression; people do not become literate simply because a literacy technology becomes available, but because there is a

social shift which gives them a reason to become literate in a specific way. One of the most famous examples of this shift is the arguments of the Humanists against the literacy practices of medieval Europe, which resulted in a change from Gothic to italic and other similar scripts by "repeatedly and provocatively challenging […] medieval practices" (Clanchy, 2013, p. 28). Clanchy also points out that, in Britain, there was widespread distrust among the population of Medieval Britain toward the transition to print literacies. Following the Norman invasion and the need to provide written evidence of claims to land, literate practices slowly began to overtake practices that had relied on oral modes. Where writing had been the province of the clergy and highly specialized scribes—most of whom at any one time were in the employ of the king—its profusion even into village life (in the form of bills of sale, writs of "good character," and aptitude tests regarding ability to be on a jury) was met with a good deal of skepticism because of the likelihood of forgeries and the reliance on tradition. One of the key ideas that Clanchy puts forward, ultimately, is that the **access to literacy is not the same thing as being literate**—the "literate mentality" was not immediate in Britain, but came slowly, over time, as people became more familiar with written modes of communication and as daily life came to rely more and more on script. This is another testament to the ideological nature of literacy and the web of values that surround it, but it also means that literacy practices, even those that would eventually come to have a prestigious position in the public eye or that may supplant local practices by force, may only come to that status over time and may indeed be resisted (Clanchy, 2013; Graff, 1997; Scollon & Scollon, 1981). The supposed "neutrality" of literacy practices, writes Graff (1997), is a function of ideology, not a description of a practice itself. Indeed, literacy practices are always implicated (commented on, negotiated) in media ideologies (and not just those in public education, but in workplaces as well) in that they have to do with the negotiations of the

political valence—the social value—of communicative practices and media; if literacy is taken as a social practice (as elaborated by Street, 1984), then institutional media ideologies, and especially those in education, do indeed pertain to the study of literacy; it is within such pieces of discourse as this (and the responses to them) that values become associated with particular literacy practices, whether positively or negatively. Within this definition, elaborated by Street, context is "king"—where something is used and how it is used ("the social formation") determines the content of the event, that "they are already embedded in an ideology and cannot be isolated or treated as 'neutral' or merely 'technical' (p. 1). **Where there is political struggle over the meanings of technology, then, the very means by which dominant points of view become institutionalized (see Silverstein, 1972) should become key objects of analysis,** rather than simply critiquing the statements or assumptions about technology that one or another institution disseminates, in that the processes of institutionalization occur in the background, where there are, unfortunately, higher standards of "membership" for participation in discursive struggle.

Furthermore, by casting technological integration in schools as merely a series of "upgrades" (as able to be fixed or enhanced by technical means), the implementation of technological change in the context of schooling is potentially "scooped" of its cultural and political content. This process of "rendering technical" is referred to by Ferguson (1986), in a study of international aid and development, as a "de-politicizing" of development, and is notably similar to the elision of the ideological aspects of literacy studied by such scholars as Brian Street (1984) and Ron Scollon (1981), in which a set of supposedly decontextualized skills (i.e., reading Standard English) carried with them entire constellations of cultural assumptions and identities that went unnoticed in policy and instruction. Likewise, the new "literate mindset" that

is depicted in NETPs and carried out in local contexts, referred to as "21st century competencies," is one that is not at all universal, but one that is situated within relative privilege.

In Sartre's 1961 preface to Fanon's "The Wretched of the Earth"—a collection of Sartre's essays was sitting on my desk as I concluded this manuscript—he makes a remark about the connection between discourse and power that I think illustrates the key political issue with regard to the ways that institutional media ideologies form. He writes: "What a decline: for the fathers, we were the sole interlocutors; the sons no longer even consider us qualified interlocutors: we are the object of their discourse" (p. 386). Here, noting Fanon's speaking about colonialist powers rather than to them, Sartre makes an insightful comment about power as the ability to participate in the formation of discourse. The distinction between interlocutor and objects is illuminating in that it equates participation in the production of legitimate (i.e., "privileged") discourse with power—indeed, this is a fundamental tenet of the practice of CDA. Furthermore, the institutional media ideologies studied here did not engage in direct persuasion of the real objects of the discourse (i.e., students, parents, and teachers), but by addressing those "higher up the ladder," "upstream" from them and thereby constraining the production of discourse about technology further "downstream," where participant roles are taken for granted and thereby endowed with indexical meanings arising out of the particular professional domain in which the texts are read. The ability of individuals to respond to institutional media ideologies is, thereby, potentially difficult precisely because they rely so heavily on the tacit meanings that professional educators give to schooling and to students—this is perhaps why beliefs about technology seem not to enter public discourse very often and why discourse seems to be so homogonous (see Roderick, 2016 for discussion of wider discourses on technology). The "objects" of the discourse, since they are not spoken to, can only with difficulty speak back.

Institutional media ideologies, by making use of official channels and by creating "institutional rhetorics" for the creation of discourse about technology, not only exclude specific stakeholders from participating in the discourse but also, by creating a rhetoric, may preclude objections altogether.

Analyzing texts in order to describe the ways that values for technology use is formed in an institution, as I have in this study, is only a partial explanation for what is an enormously complex process. (The processes underlying social organization and its continual replication cannot be exhausted by any means of research.) Individuals have their own histories and cultures and, I would say, **rights** with regard to their own views of technology. This attempt to describe how institutional media ideologies form has indicated, corroborating scholarship in digital ethnography and anthropology, the complexity with which individuals make sense of technology and the vast range of possible responses—and thereby the pressing need of institutions to coordinate and constrain these responses by limiting what is reasonable to say about technology in particular situations. Relying as it does on situated implicatures, the processes and political implications of institutional discourse on technology needs careful, continuing study.

Call for further research

Given the complexity of institutional media ideologies and their reliance on both local contexts and on public discourses about technology and education, further studies of discourse about educational technology would do well to study connections between diffuse sources. Selwyn (2016), looking at widespread discourses about educational technology, posits that there are four dominant strains of discourse surrounding education and technology: that technology is 1) making education more democratic, 2) more personalized, 3) more calculable, and 4) more

"commercial." Digital technology, writ large, is now largely inseparable from normal educational practice, and he rightly points out that it is not appropriate to say merely which characterizations of educational technology are "accurate" or "correct," and that this elides the complexities inherent in education. Rafalow (2020), in a comparative ethnographic study of technology integration, determines that local contexts of schooling, especially the views teachers have of their students, affect the way that digital tools are incorporated into classroom work. The study of media ideologies needs both such focuses—the macro and the micro.

Race and culture are arguably among the most important areas of research in discourse about technology, but the data I was able to gather (arranged as it was according to official sources and a "convenience model" of sampling for interviews and the district-wide survey) did not lend itself to a meaningful discussion of race and culture as variables. The methodological and theoretical issues related to the study of institutional media ideologies, however, may well prove useful in further work on the meanings that individuals make of technology and what happens when these meanings conflict with dominant ways of making meaning about technology.

In this dissertation, I argued that the sort of implicatures required to interpret discourse about educational technology were themselves deeply situated; this means that the processes by which political choices are made to seem standard are largely "hidden" from public view. Having established some of the processes by which institutional media ideologies are propagated and institutionalized, studies of the media ideologies and literacy practices of students in the United States may be theorized more fruitfully as disjuncture between personal or community media ideologies and the institutional media ideologies they encounter in schooling and the workplace. Indeed, the consequences of disjuncture in media ideologies between parties of

unequal power is the most pressing item, I would argue, in research on digital literacy and the ways its ideologies are created and propagated. Critical, comparative accounts of media ideologies are needed for elaborating the role of discourse in the negotiation of different media ideologies in arenas wherein participants with unequal power interact, including in studies of work, access to public services, and organizational studies. This means, in short, that studies of this sort ought to study **intersections** between communities, individuals, and institutions where disjuncture in media ideologies has social consequences.

REFERENCES

Aljafari, R. (2019). *The perceptions of elementary school teachers about using E-mail as method of communication with parents for children with autism spectrum disorder (ASD) in Saudi Arabia.* Diss. Proquest.

Amiel, T., Kubota, L. C., & Wives, W. W. (2016). A systemic model for differentiating school technology integration. *Research in Learning Technology, 24*(1), 31856-15

Arnove, R., & Graff, H. (1987). *National literacy campaigns and movements*: *Historical and comparative perspectives.* Transaction Publishers.

Bakeman, J. (2015). "As Race to the Top Ends, Controversy Continues." *Politico*.

Baker, P., Gabrielatos, C., & McEnery, T. (2013). *Discourse analysis and media attitudes: The representation of Islam in the British press*. New York: Cambridge University Press.

Barendegt. B. (2012). "Diverse Digital Worlds" by. In *Digital Anthropology* (2012) Eds. Horst, Heather A. & Daniel Miller. Berg.

Barron, D. (1999). "From pencils to pixels: The stages of literacy technologies." In Hawisher, G. & Selfe C. (1999). *Passions pedagogies and 21st century technologies*. Logan: Utah State University Press.

Barton, David. (2007). *Literacy: Introduction to the ecology of written language.* Blackwell.

Bauman, R. and Briggs, C.L. "Poetics and Performance as Critical Perspectives on Language and Social Life." Annual Review of Anthropology, 19. 1990. Web. JSTOR. May 9 2017.

Berlin, J. (1984). *Writing Instruction in Nineteenth-Century American Colleges*. Southern Illinois UP.

Besecker, M. & Thomas, A. (2020). Report: "Student Engagement Online During School Facilities Closures: An analysis of L.A. Unified Secondary Students' Schoology Activity from March 16 to May 22, 2020." Los Angeles Unified School District.

Bijker, W. (1995). *Of bicycles, Bakelites, and bulbs: Toward a theory of sociotechnical change.* MIT.

Bizzell, P. (1984) "What happens when basic writers come to college?" Conference Presentation, read March 1984, *College Composition and Communication.*

Blakemore, D. (1992). *Understanding utterances: An introduction to pragmatics*. Oxford: Blackwell.

Blommaert, J. *Discourse: A Critical Introduction*. Cambridge University Press, 2004.

Bordalba, M. M., & Bochaca, J. G. (2019). Digital media for family-school communication? parents' and teachers' beliefs. *Computers and Education, 132*, 44-62.

Bourdieu, P. (1991) Selections from *Language and Symbolic Power.* Cambridge. In The Discourse Reader, Eds. Jawarski, Adam & Nikolas Coupland. Routledge.

Brandt, D. (2001). *Literacy in American lives.* Cambridge UP.

Briggs, C.L. (1986). *Learning how to ask: A sociolinguistic appraisal of the role of the interview in social science research*. Studies in the Social and Cultural Foundations of Language No. 1. Cambridge UP.

Brown, D., & Grinter, R. E. (2014). Aboard abroad: Supporting transnational parent-school communication in migration-separated families. *Information Technologies and International Development, 10*(2), 49.

Caronia, L. (2012). Texts-in-dialogues: The communicative constitution of media ideologies through family ordinary talk. *Language and Dialogue, 2*(3), 427-448.

Clanchy, M.T. (2013) *From memory to written record: England 1066-1307* (3rd ed.). Wiley-Blackwell.

Collins, J., & Blot, R. (2003). *Literacy and literacies: Texts, power, and identity*. Cambridge UP.

Cukier, W., Ngwenyama, O., Bauer, R., & Middleton, C. (2009). A critical analysis of media discourse on information technology: Preliminary results of a proposed method for critical discourse analysis. *Information Systems Journal (Oxford, England), 19*(2), 175-196.

Culp, K., Honey, M., & Mandinach, E. (2003). *A Retrospective on Twenty Years of Education Technology Policy*. USDE.

de Koster, S., Kuiper, E., & Volman, M. (2012). Concept-guided development of ICT use in 'traditional' and 'innovative' primary schools: What types of ICT use do schools develop? *Journal of Computer Assisted Learning, 28*(5), 454-464.

de Koster, S., Volman, M. & Kuiper, E. (2017). Concept-guided development of technology in 'traditional' and 'innovative' schools: quantitative and qualitative differences in technology integration. *Education Tech Research Dev* 65, 1325–1344.

Schiffrin, D. (1994) *Approaches to discourse*. Cambridge: Blackwell. Print.

del Valle, G. B. (2011). *Using a web-based program to increase parental involvement: Teachers' and administrators' perceptions.* Diss. Proquest.

domain. (2004). In J. Swann, A. Deumert, T. Lillis, & et. al., *A dictionary of sociolinguistics*. Edinburgh University Press. Credo Reference.

Domínguez Barajas, E. (2010). *The function of proverbs in discourse: The case of a Mexican transnational social network*. Berlin: De Gruyter Mouton.

Eisenlohr, P. (2010). "Materialities of entextualization: The domestication of sound reproduction in Mauritian Muslim devotional Practices." *Journal of Linguistic Anthropology*, Vol. 20, Issue 2, pp. 314-333.

Every, D., & Augoustinos, M. (2007). Constructions of racism in the australian parliamentary debates on asylum seekers. *Discourse & Society, 18*(4), 411.

Fairclough, Norman. (2003). *Analyzing discourse: Textual analysis for social research*. Routledge.

- (1989). Language and Power. Longman.

Farr, M. (1993). Essayist Literacy and Other Verbal Performances. *Written Communication*, *10*(1), 4–38.

Ferguson, J. (1990). *The anti-politics machine: "development," depoliticization, and bureaucratic power in Lesotho*. Cambridge; New York; Cambridge University Press.

Fishman, Joshua A. (1972a). *The sociology of language: An interdisciplinary social science approach to language in society*. Newbury House Publishers.

Foucault, M. (1980). *The history of sexuality*. New York: Vintage Books.

Gee, J. P. (1996). *Social linguistics and literacy: Ideology in Discourses* (2nd ed.). Routledge

   - (2010). An introduction to discourse analysis: Theory and method. Taylor & Francis

Gee, J.P., Hull, G., & Lankshear, C. (1996). *The New Work Order*. Westview Press. Print.

Gershon, I. (2010a). *The breakup 2.0: Disconnecting over new media*. Cornell UP. PDF.

   -(2010b). "An introduction to media ideologies." *Anthropological Linguistics*. Vol. 20, issue 2., pp. 283-93. PDF.

   -(2010c). Breaking Up Is Hard To Do: Media Switching and Media Ideologies. *Journal of Linguistic Anthropology*, Vol. 20, Issue 2., pp. 389-405. PDF.

Goddard, M. (2014). Media ecology. In M. Ryan, L. Emerson, & B. J. Robertson, *The Johns Hopkins Guide to Digital Media*. Johns Hopkins University Press. Credo Reference.

Goffman, E. (1981). *Forms of Talk.* University of Pennsylvania Press.

Graff, G. (1997). *The labyrinths of literacy: Reflecting on literacy past and present* (2nd ed.). Pittsburgh UP.

Gumperz, J. J. (1982). *Discourse strategies*. Cambridge: Cambridge U. P.

-(2003). "Interactional sociolinguistics: A personal perspective." In D. Schiffrin, D. Tannen, & H. E. Hamilton (Eds.) *The Handbook of Discourse Analysis* (215-228).

Halliday, M.A.K. (1978). *Language as social semiotic: The social interpretation of language and meaning*. Baltimore: University Park Press.

Heracleous, L., & Barrett, M. (2001). Organizational change as discourse: Communicative actions and deep structures in the context of information technology implementation. Academy of Management Journal, 44, 755–778.

Hermansen, P. (2016). *Selling college: Student recruitment and education reform rhetoric in the age of privatization.*

Herrando-Rodrigo, I. (2015). Attitudes and discourse: Spanish practitioners' and undergraduates' survey results. *PROFILE Issues in Teachers' Professional Development, 17*(1), 55-72.

Ho, L., Hung, C., & Chen, H. (2013). Using theoretical models to examine the acceptance behavior of mobile phone messaging to enhance parent–teacher interactions. *Computers and Education, 61*, 105-114.

Hymes, D. (1975). *Foundations in sociolinguistics*. Philadelphia: U. of Pennsylvania Press.

-        (1996). *Ethnography, linguistics, and narrative inequality: Toward an understanding of voice*. Taylor & Francis.

Jakobson R., "Closing Statement: Linguistics and Poetics," in *Style in Language* (ed. Thomas Sebeok), 1960

Johnstone, B. (2008). *Discourse analysis*. 2nd edition. Blackwell.

Kaestle, C.F., Damon-Moore, H., Stedman, L.C., Tinsley, K., & Trollinger, Jr., W.V. (1991). *Literacy in the United States: readers and reading since 1980.* Yale UP.

Kania-Lundholm, M., & Torres, S. (2018). Ideology, power and inclusion: using the critical perspective to study how older ICT users make sense of digitisation. *Media, Culture & Society*, *40*(8), 1167–1185.

Kirschner P., and De Bruyckere, P. (2017). The myths of the digital native and the multitasker. *Teaching and Teacher Education*. (67), pp. 135-142.

Kozma, R. B. (2011). ICT, education transformation, and economic development: An analysis of the US national educational technology plan. *E-Learning and Digital Media, 8*(2), 106.

Kunreuther, L. (2010). "Transparent media: radio, voice, and ideologies of directness in postdemocratic Nepal." *Journal of Linguistic Anthropology*, Vol. 20, Issue 2, pp. 334-351.

Lee, N. M., & Lee, N. M. (2018). Fake news, phishing, and fraud: A call for research on digital media literacy education beyond the classroom. *Communication Education: Communication and Instruction Beyond the Traditional Classroom, 67*(4), 460-466.

Levin, D., and Arafeh, S. *The Digital Disconnect: The Widening Gap between Internet-Savvy Students and Their Schools* (Washington, DC: The Pew Internet & American Life Project, 2002).

Lowenstein, R. (2004). *Origins of the crash: The great bubble and its undoing*. Penguin Press.

Maher, D. C. (2006). *Enhancing connectivity between home and school with online communication tools.* Diss. Proquest.

Malitsky, J. (2010). "Ideologies in fact: Still and moving-image documentary in the Soviet Union, 1927-1932." *Journal of Linguistic Anthropology*, Vol. 20, Issue 2, pp. 352-371. PDF.

Mazza, J. A., Jr. (2013). *The use of social media tools by school principals to communicate between home and school.* Diss. Proquest.

McIntush, H. (2000) "Defining Education: The Rhetorical Enactment of Ideology in *A Nation at Risk." Rhetoric & Public Affairs* 3 (3), pp. 419-443

McKenna, B. J. and Graham, P., 2000, Technocratic Discourse: A Primer, Journal of Technical Writing and Communication, 30(3), pp. 223–52.

Mehta, J. (2013). "How Paradigms Create Politics: The Transformation of American Educational Policy, 1980—2001." *American Educational Research Journal*, April 2013, Vol. 50 (2). pp. 285-324.

Meyer, J., Scott, W., & Strang, D. (1987). Centralization, fragmentation, and school district complexity. Administrative Science Quarterly, 32, 186-201.

Miles, M., Huberman, M., & Salana, J. (2014). *Qualitative data analysis: A methods sourcebook.* Sage. 3rd Edition.

Mitcham, C., & Lucena, J. (2005). Social and political determinants of technological change. In C. Hempstead, & W. E. Worthington (Eds.), *Encyclopedia of 20th century technology*. Routledge. Credo Reference.

National Center for Educational Statistics. Retrieved from https://nces.ed.gov

O'Connor, E. S. (2000). Plotting the organization: The embedded narrative as a construct for studying change. Journal of Applied Behavioral Science, 36, 174–192.

Phillips, N., & Hardy, C.. (2002). *Discourse analysis: Investigating processes of social construction*. Thousand Oaks, CA: Sage.

Phillips, N., Lawrence, T. and Hardy, C. (2004). "Discourse and Institutions." The Academy of Management Review 29.4 (Oct., 2004), pp. 635-652.

Pink, S., Horst, H., Postill, J., Hjorth, L., Lewis, T., & Tacchi, J. (2016). *Digital ethnography*: *Principles and practice.* Sage.

Porterfield, K., 1941. (2014). *Why school communication matters: Strategies from PR professionals*. Lanham, Maryland; Plymouth, England;: Rowman & Littlefield.

Potter, J., 1956, & Wetherell, M., 1954. (1987). *Discourse and social psychology: Beyond attitudes and behaviour*. Sage Publications.

Rafalow, M. H. (2020). *Digital divisions : How schools create inequality in the tech era*. University of Chicago Press.

Reeves, T., & Oh, E. (2017). "The goals and methods of educational technology research over a quarter century (1989—2014)." Educational Technology Research and Development, 65 (2), pp. 325-339

Roderick, I. (2016). *Critical Discourse Studies and Technology*. Bloomsbury. Kindle edition.

Rose, M. (2005). *The mind at work*: *Valuing the intelligence of the American worker.* Penguin.

-(1990). *Lives on the boundary: A moving account of the struggles and achievements of America's educational underclass.* Penguin.

Rose, R., & Waks, L. (2012). The national educational technology plan: Continuing the dialogue. *E-Learning and Digital Media, 9*(1), 96.

Ross, S. (2019). Being real on fake Instagram: Likes, images, and media ideologies of value. *Journal of Linguistic Anthropology, 29*(3), 359-374.

Sartre, J.P. (1961) Preface to "The wretched of the earth." In *We have only this life to live*: *The selected essays of Jean-Paul Sartre, 1939-1975*. Ed. Aronson, R., & van Den Hoven, A. New York Review Books.

Sayer, P., & Braun, D. (2020). The disparate impact of COVID-19 remote learning on English learners in the united states. *TESOL Journal, 11*(3), n/a.

Scollon, R., & Wong-Scollon, S. (1981). *Narrative, literacy and face in interethnic communication*. Ablex.

Selwyn, N. (2016). Is Technology Good for Education? Toronto, ON: John Wiley & Sons.

Shi, G. (2018). An analysis of attitude in Chinese courtroom discourse. *Poznan Studies in Contemporary Linguistics, 54*(1), 147-174.

Silverstein, M. (1979) Language Structure and Linguistic Ideology. In *The Elements: A Parasession on Linguistic Units and Levels*. R. Cline, W. Hanks, and C. Hofbauer, eds. Pp. 193–247. Chicago: Chicago Linguistic Society.

Silvio, T. (2010). "Animation: The New Performance?" *Journal of Linguistic Anthropology*, Vol. 20, Issue 2, pp. 422-438. PDF.

Sims, C. (2017). *Disruptive fixation: school reform and the pitfalls of techno-idealism*. Princeton; Oxford: Princeton University Press.

Spillane, J. P. (2016). "State policy and the non-monolithic nature of the local school district: Organizational and professional considerations." *American Educational Research Journal, 35*(1), 33-63.

Street, B.V. (1984). *Literacy in theory and practice*. Cambridge UP.

-(1995) *Social literacies: Critical approaches to literacy in development, ethnography and education*. Longman.

Street, B.V. (Ed). (1993). *Cross-cultural approaches to literacy*. Cambridge UP.

U.S. Department of Education, Office of Educational Technology, *Transforming American Education: Learning Powered by Technology,* Washington, D.C., 2010.

U.S. Department of Education, Office of Educational Technology. (2004). *National Technology Education Plan: Toward a New Golden Age in American Education: How the Internet, the Law, and Today's Students are Revolutionizing Expectations*.

United States Department of Education. (2009). Race to the Top: Executive Summary. Available at https://eric.ed.gov/?id=ED557422

van Leeuwen, Theo. (2008). *Discourse and practice: New tools for critical discourse analysis*. Oxford U.P.

Vidali, D.S. (2010). "Millennial encounters with mainstream television news: excess, void, and points of engagement." *Journal of Linguistic Anthropology*, Vol. 20, Issue 2, pp. 372-288. PDF.

Visvizi, A., 1976, Lytras, M. D., 1973, & Daniela, L., 1967. (2019;2018;). *The future of innovation and technology in education: Policies and practices for teaching and learning excellence*. Bingley, U.K: Emerald Publishing Limited.

Weidman, A. (2010) "Sound and the city: Mimicry and media in south India." *Journal of Linguistic Anthropology*, Vol 20, Issue 2, pp. 294-313.

Winner, L. (1986). *The whale and the reactor*: *A search for limits in an age of high technology*. Chicago UP.

Wodak, R, & Myer, M. (2001). *Methods of Critical Discourse Analysis*. London: Sage.

Zang Wharing, Hansun. (2018). *Discourse Analysis: The questions discourse analysts ask and how they answer them.* New York, NY: Routledge.

APPENDICES

Appendix A - Transcription Conventions (Jefferson)

(.)   A micropause – a pause of no significant length

(0.5)   A timed pause

[]   Square brackets show where speech overlaps

><   Arrows showing that the pace of speech has quickened

<>   Arrows showing that the pace of the speech has slowed down

(())   Entry requiring comment but without a symbol to explain it

Underlining   Denotes a raise in volume or emphasis

↑   Rise in intonation

↓   Drop in intonation

:::   Colons indicate a stretched sound

Appendix B – Questionnaire

To whom it may concern:

Good day. I am writing to you today to seek your participation in a research project in the form of a brief email questionnaire regarding the uses and meanings of technology in the (school district). This project, a PhD dissertation in Rhetoric and Composition at the University of Arkansas, Fayetteville, aims to investigate how educational technology is talked about in different settings and occasions. (school district), with its proximity to (redacted) as well as its successful application for a sizeable federal grant, represents a particularly interesting case with regard to educational technology. I am seeking employees of the district, current or former, to provide brief answers about their work in the district, the role of technology in their work, and personal attitudes toward technology in schooling. Participants will be asked to describe their views of technology, the ways they talk about it or read about it, and their beliefs and attitudes regarding the use of educational technology. The questionnaire should take anywhere from 10-20 minutes to finish, depending on the depth of answers.

Please note that by submitting your answers in this questionnaire, you are confirming that you consent to your answers being used in research. Please see the below information about your rights as a research subject, and let me know if you have any questions. Your participation in this study in completely voluntary—you may withdraw your consent at any point during the research process without penalty or prejudice from the researcher or the University of Arkansas. As records from public institutions are subject to the Freedom of Information Act (FOIA), data will be maintained to the extent provided by the law and university policy. No personal details of respondents will be included in the written report.

If you have questions about the University of Arkansas' process of approving research, enforcing research ethics, or about your right as a research subject, please contact the Compliance Coordinator using the following contact information:

Iroshi Windwalker
Phone: (REDACTED)
Email: irb@uark.edu
Address: Research Compliance Office, 109 MLGK, Fayetteville, AR, 72701

-Chris Borntrager
 Graduate Assistant, UARK English Dept
(information redacted)

1.1 Teaching What age range do you teach?

- o Preschool (1)
- o Elementary (Kindergarten – 5th grade) (6)
- o Middle School (6th grade – 7th grade) (7)
- o Junior High school (8th grade – 9th grade) (8)
- o High School (10th grade – 12th grade) (9)

1.2 Age What is your age?

- o • 25-34 (2)
- o •   35-44 (3)
- o •   45-54 (4)
- o •   55-64 (5)
- o •   65-74 (6)
- o • 75 years or older (7)

1.3 Ethnicity What is your ethnicity?

- o a.   Asian or Pacific Islander (1)
- o b.   Black or African American (2)
- o c.   Hispanic or Latino (3)
- o d.   Native American or Alaskan Native (4)
- o e.   White or Caucasian (5)
- o f.   Multiracial or biracial (6)
- o g. A race/ethnicity not listed here (please specify) (7)
  _____

1.3 Gender : What is your current gender identity?

- o Male
- o Female
- o Different identity (please specify) _____

2.1 Class Tech : What kinds of technology do you use in your classroom? Check any boxes that apply.

1. •   Chromebook (1)
2. •   Cellphone (2)
3. •   Desktop computer (3)
4. •   iPad (4)
5. •   Personal computer (5)

6. •   (redacted) station (6)
7. • Other (please specify) (7) _____

2.2 Change : On a scale of 0 to 10, how much would you say that technology influences the way that you teach (0 being "technology has no influence on my teaching" and 10 being "technology transforms my teaching")?

2.3 Explanation : Please explain your answer to the previous question.

_____

2.4 Felt Proficiency On a scale of 1 to 5, how would you rate your ability to effectively use the digital tools available to you in the classroom?

o   1- Not proficient at all (1)
o   2- Somewhat proficient (2)
o   3- Moderately proficient (3)
o   4- Very proficient (4)
o   5- Extremely proficient (5)

2.5 Support How satisfied are you with the institutional support you have been provided in your use of digital tools for teaching?

o   Extremely dissatisfied (1)
o   Moderately dissatisfied (2)
o   Slightly dissatisfied (3)
o   Neutral (4)
o   Slightly satisfied (5)
o   Moderately satisfied (6)
o   Extremely satisfied (7)

2.6 Response : Please explain your answer to the previous question.

_____

3.1 Benefit : Please indicate how much you agree with the following statement:
 "The 'one-to-one technology' initiative has greatly benefitted instruction in (school district)."

- o Strongly agree (1)
- o Agree (2)
- o Neither agree nor disagree (3)
- o Disagree (4)
- o Strongly disagree (5)

3.2 Response: Please explain your answer to the previous question.

_____

3.3 Open response: In your own words, please describe your own beliefs about the usefulness of technology in schooling.

_____

Appendix D – Interview Informed Consent

CONSENT TO PARTICIPATE IN RESEARCH

Title of Project

"Media ideologies and the politics of digital literacy: Discourses on technology and media in a small school district in the U.S. Heartland"

Researchers
Chris Borntrager (Head Researcher, University of Arkansas) (email redacted)
Elias Dominguez Barajas (Faculty Sponsor, Dissertation chair, Florida State University) (email redacted)

Purpose of study
This study investigates some of the many ways that technology is written about and understood in the school district, especially how beliefs about technology are communicated and negotiated in written texts. Of special interest in these interviews are the implementation of technology in the district over time, what kinds of obstacles existed to this type of change, and strategies used to overcome these obstacles.

Inclusion/Exclusion Criteria
To participate in this research:
You must be employed or formerly employed by either:
 the district offices of (REDACTED);
 a school within (REDACTED);
You must be at least 18 years of age

Participation Procedures and Duration
Once this informed consent form has been completed by the participant, participants will be interviewed by the researcher using whichever of the of the following means is chosen by the interviewee: over the phone, using teleconferencing, or in person (if appropriate measures may be taken to avoid possible exposure to COVID-19). The interview will focus on technology in the school district, whether in communication, support, planning, creation of best practices, or purchasing. The conversation may last from 20 – 40 minutes. Participants may also be interviewed regarding their uses of technology, the ways they talk about it or read about it, and their beliefs and attitudes regarding the use of educational technology.
Following the initial interview, the participant will be asked if they are willing to participate in a follow-up interview. If the participant is willing, the researcher will schedule further interviews with the participant.
At the conclusion of interviews, transcripts will be made available to participants upon request, whereupon participants may request revisions to the transcripts.

Audio Recording
For purposes of accuracy, interviews will be audio recorded and transcribed electronically. These files will be stored on a password-protected PC and on a password-protected data cloud. In the transcripts, a pseudonym will be ascribed to individual participants so that no identifiable information will be attached to the comments. The recordings will be stored as password-protected digital files for 3 years, as per state and federal regulations; the files will then be deleted.

Data Confidentiality

Data will be maintained confidentially to the extent allowed by law and by university policy. All participants will be assigned a pseudonym to protect their identities; the pseudonym will also be used in the data and in any subsequent writings making use of the data.

Risks or Discomforts
There are no anticipated risks for participating in this study.

Benefits
Participants will be provided opportunities to reflect on their beliefs and attitudes toward technology and its role in their professional lives.

Voluntary participation
Your participation in this study is completely voluntary—you may withdraw your consent at any point during the research process without penalty or prejudice from the researcher, the University of Arkansas. Please feel free to ask questions about the project or this consent form before signing or at any point during the research process.

IRB Contact Information
If you have questions about the University of Arkansas' process of approving research, enforcing research ethics, or about your right as a research subject, please contact the Compliance Coordinator using the following contact information:

      Iroshi Windwalker
      Phone: (REDACTED)
      Email: irb@uark.edu
      Address: Research Compliance Office, 109 MLGK, Fayetteville, AR, 72701

<p align="center">*******</p>

<p align="center">**CONSENT FORM**</p>

I, _____ (please print your full name), agree to participate in this research project entitled **"Media ideologies and the politics of digital literacy: Discourses on technology and media in a small school district in the U.S. Heartland".** I have had this study explained to me and my questions have been answered to my satisfaction. I have read the description of this project and give my consent to participate. I understand that I will receive a copy of this informed consent form to keep for future reference.

I understand that my participation in this study is completely voluntary and I am free to withdraw my permission at any time during the research process without penalty or prejudice from the researcher.

To the best of my knowledge, I meet the inclusion/exclusion criteria for participation (described on the previous page) in this study.

By signing, I give my permission for the head researcher to record interviews and to transcribe them.

_____

Participant's Signature   Date

Head Researcher Contact Information

Christopher Borntrager

(REDACTED)

Appendix E – Interview Recruitment Email

To whom it may concern:

Good day. I am writing to you to request your participation in a research project regarding educational technology in (school district)

This research project, a PhD dissertation in Rhetoric and Composition at the University of Arkansas, Fayetteville, aims to investigate the role of communicative practices in the implementation of technological change across the district in its many forms. (school district), with its proximity to (REDACTED) as well as its successful application for a sizeable federal grant, represents a particularly interesting case with regard to educational technology. Of special interest to this study is the way that views of technology changed over time, both personally and organizationally.

I am seeking employees of the district, current or former, to be interviewed about their work in the district, the role of technology in their work, personal attitudes toward technology in schooling, and the processes of technological change that have taken place in the district.

I am writing today to request your participation in this study by consenting to be interviewed, either in person, by phone or via teleconferencing. The interview process should take anywhere from 20-40 minutes, depending on the level of involvement of the interviewee. If you are willing to participate in follow-up interviews, we will continue the process.

If you are interested in participating in this study, please contact me at (EMAIL REDACTED) whereupon I will provide informed consent documentation and further instructions.

Chris Borntrager

Graduate Assistant, UARK English Dept

(contact information redacted)

Appendix F – IRB Approval Letter

UNIVERSITY OF
ARKANSAS.

To:	Christopher L Borntrager
From:	Justin R Chimka, Chair IRB Expedited Review
Date:	10/07/2021
Action:	**Expedited Approval**
Action Date:	10/07/2021
Protocol #:	2009284168
Study Title:	Media ideologies and the Politics of Digital Literacy: Discourses on technology and media in a small school district in the U.S. Heartland
Expiration Date:	06/20/2022
Last Approval Date:	

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

Adverse Events: Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Adam R Pope, Investigator