Sociotechnical Narratives in Rural, High-Poverty Elementary Schools: Comparative Findings from East Texas and South India

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ABSTRACT

The article's purpose is to compare case studies of computer technology use at two rural elementary schools across two international settings. This study uses the Social Construction of Technology (SCOT) theory to guide this comparative investigation of how elementary school teachers and students in East Texas and South India construct meaning for computer technology. Building off of SCOT theory, the article also introduces the term, "sociotechnical narratives" as part of the analysis of the meaningful descriptions of ways that social groups use tools in relationship to their wider social context. The article found that even though the two settings, East Texas and Rural Karnataka, are about as far apart geographically as they are culturally, similar sociotechnical narrative emerged. The sociotechnical narrative includes: (1) A shared hope in the opportunity and possibilities with computer technology, (2) the development of literacy skills, and (3) similarity in knowledge tasks for the future. The study's comparative research design provides greater depth in analyzing the meaning and uses for computer technology among students and teachers in rural, high-poverty areas across international contexts.

Keywords: *Elementary Schooling; ICT; India; Poverty; Rural Schools; Sociotechnical Narratives; Social Construction of Technology Theory (SCOT)*

INTRODUCTION

In his deeply perceptive book*, The Social Character of Learning*, Krishna Kumar (1989) asserts that, "schools equip individuals with knowledge and skills that are appropriate to the tasks generated by the economy and supported by politics and the local culture" (p. 69). In the current Global Information Technology Age, which is characterized by technological advances but also growing inequities, what knowledge and skills do elementary schools begin to equip individuals with? Does the knowledge and skills emphasized in schools reflect the tasks generated by a highly interconnected globalized economy? And, does the knowledge and skills address or just reproduce the inequities? This article takes up these questions by examining the meanings for computer technology in rural, high-poverty elementary schools. Specifically, the article compares perceptions of computer technology use among students and teachers in rural elementary schools in South India and in East Texas.

The article's purpose is to describe and report on case studies of computer technology use at two rural elementary schools in the international locales. The article reports on similarities and differences in the sociotechnical narratives (Byker, 2012) that emerged from the two schools. Sociotechnical narratives are the meaningful descriptions of ways that social groups use tools in relationship to their wider social context. This definition for sociotechnical narratives combines Bijker's (1995) notion of the sociotechnical with Mattingly's (1991) notion of narratives. The sociotechnical, then, is made up of the many different spheres of social context (e.g., economic sphere, political sphere) and the technological, which is the way people use tools (Bijker, 1995). According to Mattingly (1991), a narrative is how people make sense of complex experiences and phenomenon in descriptive and meaningful ways. This article utilizes sociotechnical narratives to

explore how the meanings that the study's participants assigned to computer technology reflect the rural contexts in which both schools are situated.

The paper is divided in to five parts. The first part provides background information with a review of the literature. The paper's second part describes the study's theoretical framework, which is a social constructivist theory, called the Social Construction of Technology (SCOT) theory. The SCOT theoretical frame further informs the study's research questions. The study's methodology is explained in the paper's third part. Part four describes and discusses the comparative findings from the two schools. In the paper's conclusion, the final part, recommendations of further studies are highlighted. Additionally, the study's findings are discussed in order to shed light on examples of the complex sociotechnical narratives that emerge from rural elementary schools in East Texas and South India.

BACKGROUND

Government leaders and educators often link computer technology use with promising educational benefits in delivering innovative ways to educate elementary schoolchildren. However, little is known about how school level contextual issues shape the meanings for computer use (Light, 2010; Pal, 2009; Walsham, 2010). Likewise, there is very little research on how elementary school teachers and students construct and negotiate their meanings or purposes for the use of classroom computer technology. Nor is there much comparative and international research on the similarities and differences in the uses for computer technology across school contexts. So while there is considerable interest in utilizing technology to raise student achievement, educators are unclear about the best ways to do this. The extensive research efforts of international organizations, like the Organization for Economic Co-operation and Development (OECD), have resulted in a deep knowledge base about the possibilities and effectiveness of using technology in school. Yet, there is this strong knowledge base among policymakers, the way technology enhances teaching and student learning is not well understood by educators. Despite all the grant money, goals, and promises related to educational technology, there is limited knowledge among educators about the way technology also gets contextualized in the classroom (Buckingham, 2007; Cuban, 2001; Ertmer,Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012; IlBe, Maeng, & Binns, 2013; Howley, Wood, & Hough, 2011; Kim, et al., 2013; Selwyn, 2002). Thus, the research surrounding elementary school technology integration research is scarce and inconclusive.

The literature reveals that more empirical research is needed into constructivist practices around computer technology as well as how meanings for technology are socially constructed. Researchers including Buckingham (2007), Selwyn (2010), and Staples, Pugach, and Himes (2005) emphasized how elementary school context shapes the way in which technology get utilized. For example, Staples, Pugach, and Himes (2005) argue that successful integration of technology is more than just access to technology or an investment in laptops. Their case studies of three elementary schools reported findings to help scaffold successful elementary school technology integration. They posited that three factors are necessary to meet the challenges and barriers of technology integration. First, technology must be aligned with curriculum and the elementary school's mission. Related to this first point, the importance of including everyday stakeholders in the elementary school community especially the teachers and students, is discussed. Second, there must be teacher and principal acceptance and "buy in" for using the technology. Buy in is evident in the everyday, consistent commitment that teachers show in their use of the technology. Third, public recognition must be given for students and teachers to continue to be engaged with instructional technology. This current study picks up on similar themes, but with a deeper investigation as to how computer technology is socially constructed through a context of use in rural schools.

THEORETICAL FRAMEWORK

This study uses the Social Construction of Technology (SCOT) theory to guide the comparative investigation of how elementary school teachers and students in East Texas and South India construct meaning for computer technology. SCOT theory maintains that the meanings and purposes for technology come from people (Bijker, 2010). SCOT posits that a technology's meaning making happens through negotiation among groups of people, like students and teacher. And this negotiation happens through a discourse about the technology. Discourse, is the process by which people communicate, both verbally and nonverbally, their interpretations about objects and ideas. SCOT holds that a technology's discourse happens in the context of use.

SCOT theory offers four steps for investigating how people negotiate meaning for technology. The first SCOT step is identifying relevant social groups. According to Bijker (1995), relevant social groups are the actors who share space in a technology's meaning construction. The study's relevant social groups were fifth grade students and teachers at an elementary school in East Texas and at an elementary school in rural Bangalore. More details about the two schools are provided in the methodology sections. The second SCOT step is to distinguish the relevant social groups' interpretations of technology. Bijker calls this interpretative flexibility. Bijker asserts that interpretative flexibility is detected via a social group's rhetoric about a technology's goals, outcomes, and purposes. The third SCOT step examines how the social groups negotiate their interpretative differences. Bijker describes this negotiation process as a technology's stabilization. Different degrees of stabilization include: (1) relevant social groups come to a *consensus* about the meaning of a technology; (2) one social group *dominates* the "meaning making" process of technology; or (3) two or more social groups *compete* in the "meaning making" process and the meaning gets negotiated through this competition (emphasis added, Bijker, 1995). The fourth SCOT step requires a further examination of demographic data in order to identify each social group's technological frame. The technological frame is each group's cultural and socio-economic characteristics (Bijker, 2010). Bijker (2010) explains that as social groups interrelate, they negotiate and construct a common interpretation of a technology using their technological frame characteristics.

SCOT theory is useful for identifying how social groups construct different meanings for their understanding of "core meaning of a technology" (Bijker, 1995, p. 281). These core stories are what the article recognizes as "sociotechnical narratives." As mentioned earlier, the notion of sociotechnical narrative emerged, in a grounded theory way (Glaser & Strauss, 1967), from the work of Byker (2012). Sociotechnical narratives also build on the contours of SCOT theory, particularly within the explanation of technological frames. To review, sociotechnical narratives are the meaningful descriptions of ways that social groups use tools in relationship to their wider social context. In the context of schooling, these narratives help illustrate the complexity related to the purposes that teachers and students construct about a technology's core. Thus, the uses for a school's computer technology is constructed into something considerably more meaningful than just computer hardware, software, or knowing how to tap on a computer's keyboard.

In order to identify and compare the study's sociotechnical narratives, two primary research questions situate the study: 1) How and why is computer technology socially constructed in elementary schools in East Texas and South India?; and 2) How is the social construction of technology similar and different between the two locations?

The power of SCOT theory is that it is not only a theoretical framework, but it is also a methodological approach. SCOT provides a set of questions, which are aligned to its four steps, for investigating the uses for technology in a certain setting. These questions are the following:

1. Who are the relevant social groups and what is their social context like?
2. What meanings do the study's relevant social groups assign to computer technology?
3. How do the relevant social groups negotiate the meaning for computer technology use? To what degree is there stabilization?
4. How does the social context help explain the meaning the relevant social groups assign and negotiate for computer technology?

METHODOLOGY

To investigate these questions, the study employs a comparative case study research design (Yin, 2008) that is situated in the ethnographic tradition. Geertz (1992) said, "The aim of ethnography is to clarify what on earth is going on among various people at various times and draw some conclusions about the constraints, causes, hopes, and possibilities—the practicalities of life" (p. 133). The study's method is aimed at understanding and drawing comparisons between the meanings constructed for computer technology in elementary schools.

Yin (2008) asserts that case study is a research design for empirical inquiry that allows for the investigation of complex phenomena of authentic contexts. The strength of case study research design is that it allows the researcher to examine *how* and *why* questions. A *how* question is useful for identifying the processes that a people under study use in order to accomplish objectives; whereas, the *why* question is important for understanding the reasoning and purposes behind the processes (Yin, 2008). To examine these how and why questions, case study design insists on the multiple data sources, including both qualitative and quantitative data. Yin explains that the use of multiple data sources helps to triangulate the research findings. Additionally, the multiple data sources are valuable for testing and developing theory (Yin, 2008).

The study employed qualitative and quantitative methods to compile a case study of each school. There were four qualitative data sources: field notes from on-site observations, student focus group interviews, teacher interviews, and collected artifacts like curriculum documents and digital images. The student focus group interviews and teacher interviews were structured to identify interpretations for using computer technology. Collected artifacts included curriculum documents and digital images as visual data of each of each school's computer hardware and software.

Two sources of quantitative data included: a student questionnaire and a teacher questionnaire. The questionnaires generated demographic data and identified perceptions about using computer technology. The student questionnaire was given to all the study's student participants. At both schools in this study, the student response rate on the questionnaire was 100%. The questionnaire was intended to generate additional data in order to identify the students' interpretative flexibility and technological frame. The teacher questionnaire was adapted from one developed by Law, Pelgrum, and Plomp (2008) and was given to all the study's teacher participants. The teacher questionnaire response rate was 100%, as well. The questionnaire was intended to generate additional data about the teachers' interpretations of computer technology use.

Data Analysis

The study's qualitative data were analyzed examined using Miles and Huberman's (1994) three-step interpretive approach. Their approach includes: (1) data reduction; (2) data display; and (3) conclusion drawing through triangulation verification. Additionally, the study used the constant-comparative method (Glaser & Strauss, 1967) to compare findings. As part of case study research design, Yin (2008) asserts that pattern-matching logic is a useful form of analysis in

order to identify patterns in the data that either do or do not match with study's theoretical framework. The quantitative analysis is at a descriptive level. These descriptive statistics are intended to provide "snapshots" of the participant perceptions of computer technology. This analysis also reports on the demographics of the participants. The quantitative results provide a way to triangulate findings about each relevant social group's interpretative flexibility and their larger technological frames. Yet, it is important to assert that the quantitative data only provide basic descriptive statistics and do not mean to infer causality or to imply that the findings are somehow universal. Rather, the descriptive statistics are meant to develop each case study's thick description (Geertz, 1973) through the report of demographics and the participants' perceptions of computer technology.

Sample

The study's sample was drawn two case study schools. The first school is elementary school, which is referred to as *Jinka Public* (a pseudonym), located in rural Bangalore, India. The second case study was about *Cedar Elementary School* (also a pseudonym), which is located in rural East Texas, United States. The target population at each school was Grade 5 students and their teachers. The study selected the Grade 5 age range (10 – 11 years of age) because research shows that is when children begin to acquire intermediate experimental design skills that lead to more advanced computer skills (Zimmerman, 2007). In order to investigate the study's research questions, it was important that the students could verbalize their interpretations for the computer's purposes. The study narrowed in on Grade 5 students because they were more likely to have a greater amount of experiences with computers than the students in the lower elementary grade levels.

Across the two schools, the total participant sample was 65 Grade 5 students and six educators. Educators mean the school professionals, like teachers and administrators, who had a direct impact on the curriculum and instruction of the study's students. Table 1 provides a brief description of each school by its demographic description and sample size.

Table 1: The School Samples

School	Type/Location	Sample
Jinka Public School	Government-run public, Rural Bangalore	Students: 11 Teachers: 3
Cedar Elementary School	Public school, East Texas	Students: 54 Teachers: 3

Settings

The description of the sample addresses the first part of the SCOT question: Who are the relevant social groups and what is their social context like? In order to address the social context, the article moves to a description of each school's setting.

Jinka Public School. Jinka Public is a government-run public school that is located about 25 kilometers from Bangalore's city center. Jinka Public serves about 60 students living in the Jinka

village. The student population at Jinka Public is of low socio-economic status. The majority of students live in small, brick and mud dwellings called *kutchas*. These hut-like dwellings have either a thatched roof or a roof fashioned from pieces of metal. Most kutchas in Jinka village have only one or two rooms and are void of indoor plumbing and running water. Food is cooked on a wood fire. While the students live in small kutchas, it is interesting to note that 72% of the Jinka Public students indicated that their families owned a television. All the Jinka Public students indicated that their families owned a cell phone.

While Jinka Public is part of rural Bangalore, the school is situated in a village that, culturally, seems quite removed from the hustle and bustle of Bangalore. Kannada, which is the official state language of State of Karnataka where Bangalore is the capital, is the language of instruction. Jinka Public is a "one laptop" school, which means they have single laptop that the whole school community shares. The laptop was provided through a Public-Private Partnership program with a Bangalore based non-governmental organization (NGO). The one laptop per school scheme supports the effort to maintain consistent attendance among the school's upper elementary students. The primary use of the laptop is to help teach English language skills through the typing (copying) of Word document. Jinka Public's teachers explained that the laptop kept the students motivated to attend school, because they wanted to use the laptop to practice writing and communicating in English. Additionally, it was also an incentive for the parents, most of whom were day laborers or seasonal field workers, to keep sending their children to the school.

Cedar Elementary Public School. Cedar Elementary is a public elementary school located in a small city (estimated population 33,000) surrounded by rural areas in East Texas. The Cedar Elementary sample is drawn from a school district that has over 23% of its families living in extreme poverty (Southern Education Foundation, 2010). The Southern Education Foundation (2010) defines extreme poverty as, "Where the income is less than half the threshold of poverty for a household of four, which is about $15.09 per day for each persons, whereas for extreme poverty it is below $7.54 per day for each person" (p. 5). The racial and ethnic breakdown of this public school district is almost 53% Black or African American, over 30% Hispanic or Latino, and 13% White or Caucasian.

The Cedar Elementary campus grade span is preschool to Grade 5. There are about 520 students in the school. Of that student population, about 95% are economically disadvantaged and 24% are English Language Learners. Although the school has iPads for all of its students and teachers, the school has not met standards on student achievement, closing performance gaps, and was rated "academically unacceptable" in reading, math, and science based on the school's performance on the state's standardized test. While the student participants at Cedar Elementary use their iPads in all the subject areas. The most common use for the iPad was literacy based applications where the students were able to practice their reading and writing.

Limitations

From the school descriptions, it is evident that there are many differences between the two case studies. For example, there is quite a variance between each school's student sample sizes. Also, the social and cultural context that situates each school is very unique to the region where the school is located. And while both regions are classified as "rural environs," there is a lot difference in what a rural area in South India is like compared to a rural area in the United States. For comparative purposes, these differences represent limitations to this research. So, in light of the limitations, the study focuses in on the one variable that both schools' have in common: poverty. Both schools are high-poverty. Of course, definitions of poverty are also quite relative to the political and economic context where a person is situated. Indeed, what it means to be "poor" in India is very different than what it means to be "poor" in the United States. But, given the fact that both schools serve students who are disadvantaged, what are the similarities and differences

in the ways the students use and construct meaning for computer technology? That is the question this research attempts to address.

With any research project, especially one that is driven by interpretation of data, the researcher is situated in the research design's strengths and weaknesses. The researcher holds "interpretive omnipotence" (Van Maanen, 1988, p. 53) over the entire research project. As Van Maanen (1998) reminds field researchers, such omnipotence is rife with limitations. In reporting the findings, the study strives to follow the ethnographic ethic (Altheide & Johnson, 1998), which means that explanations are provided for what the study is claiming to know about the study's schools using the collected data.

FINDINGS

While the two settings, East Texas and Rural Karnataka are about as far apart geographically as they are culturally, there are comparative findings between the two elementary schools. The paper organizes these findings by themes. The first theme is that while the schools had very different types of computer hardware, their students had the same hope for the possibilities of using computer technology. The second theme found that there was emphasis in both schools on developing literacy skills with the computer technology. Third, similarities in knowledge tasks that the students indicated computer technology would help prepare them to do in the future. Yet, these knowledge tasks were somewhat paradoxical as the participants chose tasks that revolved around   service   jobs,   like   teaching.

Finding 1: Same Hope, Different Hardware

Earlier, the paper described the type of technology at each school. Jinka Public has a one laptop-per-school program. There is only one laptop for the entire school body to share. Yet, the NGO that provides the laptop to the school has designated the school's students as the owners of the laptop. Their ownership is significant, because it increases responsibility and is a great source of motivation for the student learning. On the student survey, all the Jinka Public students indicated that they agreed or strongly agreed with the statement: I enjoy using a computer in school. During the student focus group interview, I asked the students why they enjoyed the laptop so much. The students began quickly chattering in Kannada to explain why they believed that way. My translator for this interview asked the students to speak one at a time. The first student to speak said this in Kannada, "*Laptop neevu nam deshage haege bandira, haage naavu nim daeshage barthare.*" Translated into English this means "the laptop is how you [they were speaking to me] were able to come to our country, so in the same way, we learn the laptop to be able to go to your country [the United States]." Another student shared that she enjoyed the laptop because the laptop provided "a way to a better life." What the student meant by that is through knowing how to use a laptop would provide greater opportunities in life.

Cedar Elementary has an iPad program where all the students have access to an iPad. When the students get to use the iPads, it is also a great source of motivation. On their student surveys, 81% of the Cedar Elementary students either agreed or strongly agreed with the statement: I enjoy using a computer in school. About 15% were undecided and 4% disagreed. The students communicated that their iPads made it easier to search and find information. They all either agreed or strongly agreed with the statement: I will have more opportunities in the future because of my computer knowledge and skills. The Cedar Elementary teachers communicated a similar interpretation for computer technology. In response to the question, "What is the most important thing you would like your students to know about using a computer?" Two of the three teaches answered, "That the use of computers can help them to be successful in the 21st century." The Cedar Elementary students shared this hope about the opportunity for a "better life" through the use of computer technology. Indeed, it was a hope shared by all the study's students.

Finding 2: An Emphasis on Literacy

Literacy was also a common theme. In the context of Jinka Public school, the literacy emphasis was related to the development of English vocabulary. At Cedar Elementary, the focus was about digital literacy and practice in English Language Arts (ELA). In the student focus interview with the Jinka Public students, participants were asked, "What words or phrases do you think of when you hear the word computer?" The students responded, mixing English with Kannada, by sharing the following associations, "typing [repeated three times]," "English [repeated twice]," "games," "typing my name," "typing my parents' names," " "ball game," "Writer program." The students mentioned the words "typing" and "English" the most. That question was followed up by inquiring about their perceptions of the relationship between English and typing.

I asked, "Do you think that typing on the laptop helps you to learn English?" Again, students echoed, "Yes, sir." I replied, "How so? How do you think that typing on the laptop helps you learn English?" A fifth grade boy student started in, "Everything we type on the laptop is in English, so when we use the laptop we learn English." Another boy student added, "The laptop's keyboard is in English that helps us learn English." Like their teachers communicated during my interview with them, the Jinka Public students also identified typing on the laptop as the way to learn English. The students' questionnaire responses align with their interpretations of English and the laptop. All the Jinka Public students either agreed or strongly agreed with the statement: I do better in reading, social, and second language (English) when using the computer.

At Cedar Elementary, there was more of a mixed response to the same statement (i.e., I do better in reading and language arts when using the computer). But 74% of the students either agreed or strongly agreed with statement. Many of these same students wrote in the survey that they enjoyed reading from their iPads. Much of the activities they did with the iPads involved developing digital literacy, which included searching for information and evaluating the resources. All of the Cedar Elementary teachers indicated that reading and literacy development were the subject matter areas that their students learn best when using the iPad.

Finding 3: Prepared for the Future

Third, the students at both schools believed that their uses for computer technology would help prepare them for a future job or career. The students were asked to indicate what kind of job or career they would like to in the future. Table 2 shows the most cited job preferences by school.

Table 2: Top Three Most Cited Job Preferences by School

School	First Job (% Cited)	Most Cited Job Preferences	
		Second Job (% Cited)	Third Job (% Cited)
Jinka Public	Teacher (55%)*	Software engineer (27%)	Police (18%)
Cedar Elementary	Teacher (28%)	Police/ FBI (19%)	Military (13%)

Note. The asterisk sign (*) signifies that the response was cited exclusively by one gender. At Jinka Public, only female students wrote in "teacher."

As Table 2 shows, teacher was the most cited job preferences among the Jinka Public and Cedar Elementary students. It was not surprising to see the high percentage response for "teacher" (or that it was only female students who wrote in this response) from Jinka Public, since it is well established in the literature that Indian parents of underprivileged female children often desire that their daughters go into teaching, because teaching is considered a secure government job that has some degree of flexibility for family planning (Pal, 2009). To some degree, a similar perception exists with a military or police office job for sons in underprivileged families. The male children are encouraged to join the military for the security that job offers. Yet, comparatively this finding is interesting in that the students, although thousands of miles apart, they share similar career goals in relationship to the uses of technology. This finding is also somewhat paradoxical in that most of these careers are service-oriented and, perhaps, are perceived to not require as much technological sophistication or technological know-how.

DISCUSSION

The paper began with a quote and a question. The quote was from Krishna Kumar (1989), who stated that, "schools equip individuals with knowledge and skills that are appropriate to the tasks generated by the economy and supported by politics and the local culture" (p. 69). And the question was: In this Global Information Technology Age, which is characterized by technological advances but also growing inequities, what knowledge and skills do elementary schools begin to equip individuals with? This paper aimed to address that question by describing and comparing computer use in two elementary schools; one school that was located in South India, the other school in East Texas. While these two places have very distinct contexts, both schools were situated in rural areas that were characterized by high-poverty and scarcity of economic opportunities. In light of rural, high-poverty contextualization, the study centered on two research questions: 1) How and why is computer technology socially constructed in the two elementary schools? and 2) How is the social construction of technology similar and different between the two locations? The paper now examines the findings related to these questions by discussing the findings as sociotechnical narratives that shed light on ways that elementary schools use technological tools in relationship to their wider social context.

ICT 4 Literacy Development

In both schools, one of the primary purposes for computer use was the development of literacy skills. Ale and Chib (2011) posit that such use of computer technology to develop literacy skills reflects the one of the basic functions of elementary schools: "to facilitate the acquisition of basic skills like literacy and numeracy" (p. 54). It is interesting that in both schools the literacy development was monolingual and centered on English language learning. When it comes to using information and communication technology (ICT) for development, especially in rural areas, why is there such a focus on English? Advani (2009) argues that the English language is the medium of the global economy. It is required for landing a decent job in both India and the United States.   There is an economic advantage attached to learning English. Yet, what is role of computer technology in helping to facilitate ways that children can learn English?

At Jinka Public the primary way to learn English vocabulary was through the repetitive typing of English vocabulary words. Whereas, at Cedar Elementary, their literacy focus related more to digital literacy and using the technology to support the reading of students. While literacy and English language development is one of the common "sociotechnical narratives" between the two schools, the primacy of English language when it comes to accessing a computer needs to be critiqued. Rozan, et al. (2006) question whether English as an entryway to technology is equitable? Rozan, et al. (2006) argue that one of the growing needs of computer technology is to have readily accessible software that is easily translated, with the touch of a mouse, into several

languages. Such translation allows for greater access and understanding of computer technology. Future research and development is needed to examine what an easily translatable interface would entail. Also, more research is needed about questions related to how effective is it to learn English with a computer? and What are the educational benefits and costs within the entanglement between computer technology and the English language?

A Future Hope

In the study's two rural, high-poverty elementary schools, another dominant sociotechnical narrative between the schools centered on hope for more opportunities because of technological know-how. Hope was a strong, connective narrative among all the participants. In one sense, hope was the acknowledgement of the reality that society is highly interconnected globalized economy; yet, it is the recognition that uses for computers are pathway toward a better life. Hope was a constant even access to resources were scarce. One such example of the lack of access was the Internet connectivity. At Jinka Public, that access was non-existent as there was not a consistent power source for a wifi network in the Jinka Village. At Cedar Elementary, the participants had access to the Internet and used the Internet regularly.

To conclude this paper I return to some lingering inquiries. Is digital literacy a skill that reflects the type of knowledge needed for the tasks generated by a highly interconnected globalized economy? Does digital literacy insure a continual growth of these types of knowledge and skills address or just reproduce the inequities? These are questions that continue to deserve further exploration. In high-poverty rural schools, like Cedar Elementary in East Texas and Jinka Public in Rural Bangalore, the sociotechnical narratives are complex. The narratives include an emphasis on literacy and English language, a hope for the opportunities that might be possible in the future, and a willingness to serve in a public way through a future career.

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