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THE WRITING ON THE WALL: EXAMINING THE LITERACY PRACTICES OF HOME
RENOVATION WORK

by

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B.S. University of Florida, 2004

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
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in the College of Arts and Humanities
at the University of Central Florida
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ABSTRACT

Home renovation workers have historically belonged to the blue-collar workforce. Their jobs are often stereotyped as less cognitively complex than those belonging to their white-collar counterparts. While prior research has revealed the cognitive complexity of such work, there is still a gap in research investigating the literacy practices of “blue-collar” workplaces. Through the lenses of New Literacy Studies and activity theory, this case study examines the texts used in a room remodel, the literacy practices surrounding the texts, and the sociocultural implications of these practices. Through document-based and retrospective interviews, the primary participant is given a voice in identifying and describing the practices and values associated with the texts in his workplace. Literacies identified during interviews are examined in context through observations. The findings indicate the importance of texts not just for facilitating the renovation work, but for developing the social relationships necessary for working together. Influenced by the work of Brandt and Clinton, this study looks beyond the limits of the local to examine how the literacy practices of home renovation workers shape and are shaped by globalizing forces. By situating home renovation work within the larger network of the Information Age, this study questions the extent to which new workplace literacies are blurring the line between knowledge work and manual labor.

Dedicated to the memory of my father, Alan James Silva, who did not live to see this degree completed, but is the major reason I developed the love of school and learning I have today. And to my Uncle Kenny, without whose support and inspiration this thesis would not exist.

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CHAPTER ONE: INTRODUCTION

Rationale and Research Question

Construction workers are like the foundations of the houses they work on, an integral part of society. Their expertise puts roofs over our heads, shelters us from the elements, and provides other creature comforts for wealthier clients. During projects, workers in the construction industry form teams mutually responsible for getting the job done. A subset of this industry is workers specializing in home renovations. The contractor leads the operation by securing subcontractors for each component of the job (everything from plumbing to painting) and coordinating with the homeowner and/or designer to complete the job on schedule. The contractor must be able to manage and coordinate work, oversee every detail of multiple projects, and maintain good customer relations.

Hearing my uncle describe his contracting work, and watching him on the job, I became aware of the complex nature of home renovations. As a former teacher accustomed to seeing construction work labeled as vocational and taught as trade labor, I wondered what literacy practices helped facilitate such work, and how. Through the research of Mike Rose, I had already been introduced to the idea that so-called “blue-collar” or “manual” labor could be cognitively complex.¹ I wondered how complex the literacy demands were as well. This question seemed important to me in an age when every aspect of life faces increased literacy demands brought about by rapidly advancing information technologies.

Even historically literate jobs have seen growing literacy demands and altered practices brought about by increasingly innovative print and information technologies (Brandt).

Workplace documentation may also be playing an increasing role in semi-skilled/blue-collar work. To what extent and with what consequences literacy practices are prevalent in and shape such work remains to be seen.

Traditionally, a study of workplace literacies might be concerned with the set of discrete, quantifiable reading and writing skills workers need to perform a job. This focus stems from Great Divide theorists, who view reading and writing as an autonomous set of skills, the acquisition of which could shape one's intelligence (Goody; Ong). In contrast, the ideological model views literacy as complex, dynamic, and socially situated. Researchers subscribing to this model view literacy practices as the social and cultural ideologies and habits that shape, and are shaped by, individuals' reading and writing practices (Bartlett & Holland; Barton; Heath; Scribner & Cole; Szwed). In the workplace, this means that literacy researchers investigate the texts unique to each workplace and how workers create, conceptualize, and use these texts (Belfiore; Defoe; Dias et al.; Folinsbee; Hunter; Joy).²

Literacy practices are so contextually embedded that they risk being overlooked in careers where production and use of documents are often secondary job duties. Home renovation is one such industry, where documentation is often a means to an end (a written record of the work and monetary deposits made toward its completion). Texts exist, but how they function for each participant on the job site may receive little day-to-day thought. When researchers do turn their attention to such texts, they often examine how workers struggle with or subvert documents, with a view to ameliorate such problems (Belfiore; Defoe; Folinsbee; Heath; Hunter). Although we now view workplace literacies as unique and socially situated, we still do not fully understand how texts function to mediate interactions, particularly their role in

developing social relationships. We know the documents are produced and used socially, but we still need to know what they contribute to the social context.³ This information is critical to understanding the impact texts have for working relationships in the Information Age. If we overlook the roles texts play in shaping workplaces, we remain uninformed and unable to consciously affect these workplace systems.

In order to address this research gap, I examine the literacy practices of an independent home renovation contractor and his associates and answer the following research questions:

What texts are used during a room renovation?

How do they mediate the work?

With what consequences?

Through interviews with the primary participant, a home renovation contractor, I describe the texts used for both kitchen and bathroom remodel jobs. Through interview and observation, I reveal how texts mediate work on these jobs, and with what consequences. Ultimately, through applying an activity-theory framework, I examine the social consequences of textual use, specifically how such texts mediate human interactions on the job. Findings indicate the importance of text not just for facilitating work, but for nurturing working relationships necessary to get the job done. Framed by an understanding of the Information Age, the results challenge the extent to which new workplace literacies are blurring the line between knowledge work and manual labor.

This study is organized as follows: Chapter 2 begins by exploring opposing definitions of work before turning its attention to an overview of the field of literacy studies and related workplace literacy studies. It concludes by outlining an anthropological approach to literacy

studies. What follows in Chapter 3 is an outline of research methods, including justification for a case study methodology. Chapter 4 discusses the results in detail, organized by kinds of texts and implications for subcontractors and the homeowner. Chapter 5 extends the study's findings beyond the limits of the local to situate the practices of the home renovation workers studied within the broader context of the construction industry and the Information Age. It concludes by discussing limitations of the current study and suggestions for further research.

¹ In *The Mind at Work: Valuing the Intelligence of the American Worker*, Rose explores the historic divide between “educated work” and “manual labor.” Through a series of case studies, he illustrates the cognitive complexity of jobs long viewed as “skilled trade labor” or “service jobs,” such as waitressing, plumbing, welding and carpentry.

² Such studies often include the larger social forces within which documents and documentation originated, and their subsequent effect on workers' practices.

³ While some of the cited studies explore the tensions texts create between working groups, the focus is often on productivity rather than productive working relationships.

CHAPTER TWO: REVIEW OF PRIOR LITERACY STUDIES

Re-conceptualizing Work

In the United States, all workers are not viewed or valued equally, and workers in the construction industry still stand a good chance of being undervalued. According to Mike Rose, who has spent years studying trade and service occupations, the work that gets the most attention “involves technology, electronic media, and ‘symbolic analysis’” (*The Mind at Work* Introduction). This work is considered part of a growing knowledge economy. According to Deborah Brandt, in this knowledge economy “texts serve as the chief commercial products” and “written products [are] a chief vehicle for economic trade and profit making” (166-67). She describes the rapid growth of the knowledge economy in response to increasing technological changes and demands for innovation. Alongside the rise of technology and innovation, “more specific mechanical skills—associated with conventional blue-collar work—tend to be perceived as less valuable” (Rose, *The Mind at Work* Introduction). This happens because perceptions tend to follow whatever work is growing economically and demanding national attention.

However, the technologies and electronics Rose speaks of do not exist in isolation, but exert influence on the rest of the economy, of which other skilled trade labor and service occupations are a part. Rose notes that the stock categories we use to discuss such work perpetuate artificial black-and-white classifications, reinforcing beliefs that manual work is less cognitively demanding or complex. However, he notes that when you remove categorical distinctions, “the technical gives rise to reflection [and] the physical and conceptual blend” (Rose, *The Mind at Work* Introduction). Brandt’s description of the “manufacturing-like

processes” involving “high levels of collaboration and oversight” further complicates the neat categories often ascribed to work (175-76). In essence, the dichotomy between physical and mental labor is a purely social construct belying the complicated reality that all work relies on a blend of the physical and mental. By further extension, all types of work—not merely the traditionally academic—must rely on integrated, job-specific literacy practices as well.

Defining Literacy

Literacy is not easily defined. According to Street and Lefstein, “[E]ven the most innocent of statements—and terms . . . are heavily contested” (“Encounters with literacy” 16). In some cases, the word *literacy* is even appropriated for areas of expertise only tangentially related to reading and writing, such as “political literacy” and “emotional literacy” (Street & Lefstein, “Encounters with literacy” 27). However, Street argues that we must reserve the term *literacy* for when there is some reading and writing involved, an interpretation I subscribe to when defining my study’s parameters. For the purposes of my study, I also focus on *useful literacy*. According to Lauren B. Resnick, who categorizes three basic types of literacy, *useful literacy* is “the use of written texts to mediate action in the world” (30). This includes “immediate goals, usually assuming that the text is authoritative and can successfully guide action” and can include degrees of interaction with the physical environment based on textual materials (Resnick 31).

Part of the struggle to define literacy stems from its complexity. In the introduction to *Literacy: A Critical Sourcebook*, Cushman et al. lament the tendency to over-simplify definitions of literacy as “the straightforward encoding or decoding of print . . . ; a single thing, measurable through a standardized test . . . ; the reading of one kind of text but not another . . . [with] direct

and specific effects on thinking . . .” (2). Similarly, Barton and Hamilton speak to the more complex nature of literacy by observing that it “may serve [multiple functions] in a given activity, where it can replace spoken language, enable communication, solve a practical problem or act as a memory aid—in some cases, all at the same time” (147). While some literacy campaigns focus primarily on reading, “writing . . . can provide a source of relative autonomy and independence for the writer” and “is likewise a key component in our understanding of what counts as literacy” (Street & Lefstein, “Encounters with literacy” 16). Although as a field literacy studies has undergone a paradigm shift into a more complex understanding of literacy, a skills-based conception of literacy still permeates some workplaces themselves. Therefore, it is necessary to understand this theoretical perspective and some of the difficulties it presents.

The Great Divide

Oversimplified notions of literacy stem from the Great Divide theorists, who view literacy as a fixed set of skills. The theory takes its name from the “divide” it creates between non-literate and literate individuals, measured by the possession or lack of reading and writing skills that make one literate. Within this theoretical perspective, Ong and Goody view literacy as causative, meaning that literacy acquisition is responsible for subsequent advances in society. For instance, Goody delineates a progression from basic alphabetic characters, through list making, to more complex literacy practices we have today. He views the discovery and utilization of lists as the fundamental divide between oral and literate cultures, explaining that the act of list making allowed cultures to begin thinking analytically and progress beyond a more simplistic, repetitive culture of orality. Similarly, Ong credits literacy with allowing individuals

to acquire the distance and perspective necessary for analytical thought, an objectivity unique to the written word. While these theorists acknowledge literacy's impact on cognition, they fail to account for both the nuanced social factors impacting literacy and literacy's social impact. According to Resnick, skills-based literacy research assumes "that literacy is an acquired ability that characterizes individuals; people either possess literacy skills or they do not" (28). For the Great Divide theorists, analytical gains systematically follow the acquisition of reading and writing skills. Based on this perspective, one's literacy can be easily measured or quantified. However, "[t]he *practice* of literacy, the social conditions under which people actually engage in literacy activities, is not examined" (Resnick 28).

When we view literacy as a set of discrete skills one either possesses or lacks, it often leads to literacy being "viewed as a means to an end" (Cushman et al. 13). In the workplace, this translates into viewing many problems in performance as stemming from workers' lack of skills. (i.e., If only our workforce were more educated, we could solve all of our productivity and labor problems.) Workplace literacy researchers also document instances where management tries to fix what they presume is their workers' lack of reading and writing skills when, in fact, the problem they are addressing is much more socially situated than a lack of reading and writing skills (Belfiore, Folinsbee).

The Social Turn

Researchers in New Literacy Studies subscribe to an ideological model of literacy. They examine and address the shortcomings of the Great Divide theorists and acknowledge the socially-situated nature of literacy practices. According to Charles Darrah, who examines the

practice of using skills requirements to label jobs and workers, a major problem with the concept of skills requirements is that it fails to account for the social aspect of workplace literacies, in which each unique work environment shapes and is shaped by workers. In other words, the very nature of the job helps determine *how* the job is performed. The skills concept also fails to acknowledge how workers network to share knowledge. Thus, if we wish to broaden our view of workplace education—or workplace literacies in general, we must reunite the social aspects of workplace literacy and education with our understanding of how workers learn and perform their jobs. As Darrah suggests, the workplace is a *community of practice*. Communities of practice develop unique conventions for assembling, using, and manipulating texts; thus, a socially-situated conception of literacy is critical for an analysis of workplace literacies.

Furthermore, if a community's history, economics, and culture help determine what gets valued as literacy, then one is not simply either literate or illiterate—there are varying degrees in between that change depending on one's current cultural milieu. In her groundbreaking ethnographic study of the Trackton community, Shirley Brice Heath helps debunk the dichotomy between literate and illiterate. Heath explains that, rather than being illiterate as those in the surrounding communities presume, Trackton residents “turn from written to spoken use of language and vice versa as the occasion demands, and the two modes of expression seem to supplement and reinforce each other in a unique pattern” (460). While they do not demonstrate the same literacy practices as their white counterparts, the residents in Heath's study have their own systems for negotiating reading and writing within their daily lives; these systems are more complex than meets the eye and deeply entrenched in community structure and values. On the other hand, when these residents venture outside their own community of practice, they lack

domain-specific knowledge to participate as experts in the literacy events they encounter because someone else holds the expert knowledge of documents.¹ Based on her observations, Heath concludes that for the residents of Trackton, “access” to literacy is less about learning reading and writing skills, and more about learning to navigate the talk around the text in a socially-acceptable fashion. The idea of patterns of communication introduced by Heath has paved the way for further studies focusing on how groups use the tools of communication in unique ways to further their own objectives and outcomes.

Literacy Events and Practices

Ultimately, as Heath’s study demonstrates, understanding literacy is best approached through an understanding of literacy practices. According to Barton and Hamilton:

“Literacy practices are the general cultural ways of utilising written language which people draw upon in their lives. In the simplest sense literacy practices are what people do with literacy. However, practices are not observable units of behavior since they also involve values, attitudes, feelings and social relationships. . . . [P]ractices are the social processes which connect people with one another, and . . . are shaped by social rules.” (143)

Before delineating the literacy practices of an individual or group, a researcher must first isolate one or more literacy events for observation. Literacy events, once identified, can become one means of structuring an analysis of the literacy practices of a select individual or group. Heath defines literacy events as “any occasion in which a piece of writing is integral to the nature of participants’ interactions and their interpretive processes” (445). Barton and Hamilton add, “Usually there is a written text, or texts, central to the activity and there may be talk round the text. Events are observable episodes which arise from practices and are shaped by them” (144).

These researchers agree that the talk around the text is vital to an event's outcome. Studying such events allows researchers to infer the underlying values and assumptions associated with each event's observable actions. According to Heath, "[L]iteracy events which bring the written word into a central focus in interactions and interpretations have their rules of occurrence and appropriateness according to setting and participants" (461). Contextual knowledge is key to a successful event for all involved subjects, who must agree on the rules and conditions of talk and use. Taking this argument to the workplace, it is not reading and writing skills themselves, but knowledge of context-specific uses of oral and written language that is central to successful use of workplace documents.

Workplace Literacy Studies

Workplace literacy studies share some commonalities across the field. Most studies are ethnographic, focusing on the dynamics of workers within a particular job site. Several key themes can be traced across studies: texts are socially situated in a complex way, the talk around the text is sometimes as important as the text itself, and forces removed from the immediate locality often influence the local workplace. Many of these studies, however, fall short in that they spend more time diagnosing problems within the workplace system, rather than better understanding what appears to be working.

Literacy Practices are Socially Situated

New workplace literacy studies reinforce the idea that texts are socially situated in complex ways on the job, their uses impacted by ever-widening ideological spheres of influence.

Mary Ellen Belfiore, who conducted ethnographic research at Canadian pickle manufacturer Triple Z, uses the following metaphor to describe how intricate and embedded literacy practices are:

“[L]iterate practices are tightly woven in with all the systems of a workplace. . . . Literacy is not a single thread to be pulled out and examined separately. Literacies are a part of the tapestry and get their meanings from how they are woven into it.” (53)

Similarly, Sue Folinsbee, who conducted participant observation at a Canadian textile factory named Texco, writes that literacy practices are “inextricably interwoven into all aspects of workplace life” and that “meanings in use” are of greatest importance (64). In both studies, workers are required to complete industry certification paperwork, and many workers also have their own unofficial literacy practices they utilize to learn and perform their jobs efficiently. Similarly, Judy Hunter’s ethnographic research of the Canadian Urban Hotel also documents the complex roles texts play: from “memory and organizational tool,” to the “highly regulated” formal documents used to control the hotel image, to the more informal documentation used by individual workers (106-07). Thus, workplace literacy practices are intrinsically woven into the workplace culture itself and manifest in both formal and informal workplace practices. However, the texts and practices associated with them sometimes take their cues from larger social forces.

The current Information Age is also shaping the way we think about and perform work. Researchers in workplace literacies define a “new workplace” as one in which documentation affects the nature of work and work culture. Tracy A. Defoe, who studied industrial manufacturing at the Canadian Metalco factory, defines a new workplace as one “where literacies and documentation mediate participation in the work, and where external standards and forces ascribe powerful meanings to those same documents as much as individuals do” (151).

Further delineating these external forces, Hunter defines Urban Hotel as a new workplace based on its culture of “[q]uality improvement, customer service, and worker empowerment” (102). These external standards span disparate industries, as evidenced by Nathalie Joy’s study of a French dairy farm. Joy documents changes affecting the farmers’ record-keeping practices that result from an increased drive for quality control and standardization, also confirming that regardless of the type of work, the Information Age is leaving its mark.

The Talk Around the Text Matters

New workplace literacy studies also reveal that the talk or ideas around texts are as important a part of literacy practices as the texts themselves. Paying attention to this talk reveals how texts and literacy practices are socially situated, including the underlying norms and values governing use of text. The unspoken rules that govern practice are often what lead to successes or tensions in the workplace, revealing disconnects between expectation and reality. Therefore, analyzing workplace literacy practices can help explain how the Information Age is affecting workers.

For instance, in Folinsbee’s Texco study, “local meanings” versus “official meanings” attached to paperwork often create conflict between management and workers (75). Management does not seem to make the connection between the conflicting demands of normal production, research and development, and the conflict’s effect on worker performance of literacy demands. Furthermore, sometimes worker noncompliance is a sign of self-preservation, rather than a lack of skills or understanding. For instance, an employee’s decision to neglect filling out a Non-Compliance Report has more to do with the implicit meanings attached to the document, such as

potential disciplinary action, than with lack of skills. On the other hand, Folinsbee, who observed workers using personal notebooks to help mentor new employees, notes that “[t]he development of these literacies can, in some cases, strengthen the bonds and relationships among workers or even departments as a community” (95). Despite the valuable contribution of informal documentation, workers who create and used the documents are often underestimated by management and could be considered noncompliant if Texco were audited.

In the Triple Z pickle factory study, Belfiore also documents the social factors surrounding worker compliance with literacy demands. She notes:

“Every day workers gauge the risk versus opportunity factors of literacy use and seem to act in what they see as their and their co-workers’ own best interests. Thus, literacy use is a negotiated act, not a simple execution of skills.” (Belfiore 23)

Belfiore also discusses tensions created between management’s and workers’ understandings of documentation. Management assumes workers’ failure to fill out forms correctly is due to lack of understanding of how to complete the forms, when really workers do not understand why they needed to add the extra paperwork into their daily routine. In other words, management and workers subscribe to different “meanings-in-use” of their literacy practices (Belfiore 49). Tensions perpetuate because management does not explore and address conflicting meanings-in-use.

In the Urban Hotel study, tension between management expectations for work-related literature and the stresses of the job often lead to print literature taking a back seat. Use of paperwork represents Floor Managers’ power and influence, while lack of compliance reflects Room Attendants’ view of paperwork as superfluous to the work itself (Hunter 132). In customer relations, when Guest Service Agents do not comply with official written procedures, “they

[justify] their action with reference to their own experience and expertise at doing the job. . . . [W]hat may have at times appeared as resistance often [seems] to have another meaning for front-line employees” (Hunter 137). Hunter explains that most employees share management’s goal for quality customer service but have discovered through experience that some of the hotel’s required written procedures are counterintuitive. Furthermore, “[T]he discourse of the top managers [is] exclusive. . . . [T]he texts [serve] as markers and [act] as barriers to entry into the ideal hotel discourse. In that sense, they [help] reproduce the broader social order” (Hunter 120). Such instances reveal another characteristic of workplace literacies—local meanings are often tied to larger social forces. In the case of Urban Hotel, these larger forces are corporate managers at the head office.

Larger Forces Influence Social Systems

Although practices have local meaning, factors influencing the workplace social climate come from forces larger than and sometimes removed from the immediate workplace. In the Triple Z study, Belfiore explains that market forces as well as changes in labor, policy, and procedures create tensions for local workers. For instance, workers express vague or unclear understandings of the factory’s Hazard Analysis and Critical Control Point documentation, which Belfiore attributes to lack of clear communication about the program (34-35). In the Texco study, Folinsbee explains that industry certification (ISO 9001) dictates many literacy practices, sometimes creating conflict between customer demands for a timely product and the demands of documentation. Consequently, the ISO program creates a system of documentation for workers that is “fraught with risk and blame, and sometimes opportunity” (Folinsbee 65-66).

In Hunter's Urban Hotel study, the corporate policy of a uniform image presents itself in the form of "distinctive, standardized language . . . that [defines] the hotel's image [and] that [identifies] and [categorizes] people" (117). Hunter describes myriad "local discourses" within the hotel itself, noting that "each local discourse [has] a distinct style of interacting . . . and a slightly different way of acting out the [hotel's] Quality Journey" (149). Within each local discourse, managerial policies and influence shape the way local literacies are practiced and used.

Each of the studies discussed above makes a case for the importance of understanding the social context of a workplace in order to better understand workplace literacies. However, in spite of noting moments when workers successfully leverage literacy practices to their benefit,² the researchers focus on the problems surrounding such complex, socially situated practices. They note conflicts between the larger demands placed on the company by outside social and economic trends. They also observe the local practices and tensions created by differing perspectives concerning literacies. While in academia we tend to analyze literacy skills with a view to diagnose deficiency, Rose sees the potential to expand our views and discover "what all these forms of symbolic behavior are on their own terms . . . what it takes to do them well [and] what they make happen in the world" ("At Last: Words in Action" 128). A result could then be "that assistance [ie: training programs] could come from a richer conceptual base, opening up curricular and pedagogical possibilities" (Rose, "At Last: Words in Action" 128). Since there will always be varying social tensions affecting the workplace, learning what works is a way to proactively address the outside influences other researchers have described. In this study, one of my goals is to make more transparent the complexities of workplace literacy practices, with a

view to describe efficiency rather than diagnose deficiency. By tracing outward to the larger influences on literacy practices, I also hope to further complicate the dichotomy between knowledge work and manual labor.

An Anthropological Approach to Literacy Studies

Because of the contextual nature of literacy practices, I adopted an anthropological approach to field studies. This allowed me to focus on gathering data to answer more fully how texts are used—and with what consequences—during a home remodel. According to Barton and Papen, co-editors of *The Anthropology of Writing: Understanding Textually Mediated Worlds*, an anthropological approach to writing works because writing is both culturally created and culturally perpetuated (4). Researchers employing this approach “do not presume” to know the literacy practices of the participants’ community when entering the field (Barton & Papen 10). I followed the advice of Barton and Papen, embracing the uncertainty inherent in being an outsider entering a specialized industry and avoiding presumptions about my subjects and their work.

Looking beyond the texts themselves, researchers who take an anthropological approach “examine the processes of production and use of texts” (Barton & Papen 7). Furthermore, “In order to understand how writing and written texts are used by different people in different contexts, [researchers] need to examine the values, beliefs, and behaviors that are associated with different forms of writing” (Barton & Papen 9). Such an examination means first identifying and recording literacy events, then examining the interactions around the texts to draw conclusions about the literacy practices of the group being observed. For me, this meant focusing on moments (i.e., events) when proposals or specs were being drafted (as I observed in the

sketching of a bathroom layout during the first formal observation) or moments when documents were referenced to verify the size and location of cabinets being installed (a literacy practice I saw frequently during while visiting the job site).³

The anthropological approach provided the guidance necessary to stay attuned for literacy events in an industry such as home renovation where literacy is often secondary to the end remodel product. According to Barton and Papen, one of the goals of the anthropological approach is to look for “forms of writing that are incipient and ordinary, often invisible and hardly known, frequently ignored or mistakenly taken for irrelevant” (10). Therefore, any reading or writing happening, however small, was videotaped as a literacy event for further study. The video camera allowed me to capture all events in the moment, then the leisure to refer back to them to record document use and determine its significance. Examining the sometimes-overlooked, ordinary, and routine literacy events and practices of the contractors in relation to “broad, complex, and at times extraordinary events,” revealed the significance of the events and practices (Barton & Papen 10).

Research in new workplace literacies argues that by examining the talk around workplace texts, one can analyze the underlying values, ideals and understandings operating in the workplace (Belfiore, Defoe, Folinsbee, Hunter, Joy). While the workplace itself is a tapestry of interwoven social forces that influence and are influenced by literacy practices, this tapestry is part of an ever-expanding network of influences experienced through local literacies. Separate threads within this tapestry push and tug upon workers, affording opportunities, constraining work, and regulating workplace tasks. Focusing on the divide between manual and educated labor, between so-called blue- and white-collar workers, I extend the work of researchers who

question the extent to which such categories accurately reflect the complexity of cognitive and literate demands workers face in the Information Age. From the theoretical perspective of New Literacy Studies, I examine the use and consequences of locally-situated literacy practices within a blue-collar workplace system.

¹ In the study, residents struggle as participants in school- and workplace-related literacy events where the practices surrounding documents are less familiar to them.

² Belfiore and Folinsbee both describe how workers tended to keep their own detailed notebooks to supplement company documents. Despite the fact that such texts were unauthorized, workers relied on them—sometimes more so than standard documentation—to perform their job-specific tasks and mentor other employees.

³ “Specs,” or specifications, include hand- or computer-created room dimensions or design features referenced during a job.

CHAPTER THREE: METHODOLOGY

Since literacy practices are socially-situated, a qualitative design best suits their study. Qualitative research focuses on the human element of participant data, including behavior motivation. Through qualitative research, I explore norms and values surrounding literacy practices which stem from and influence the social context within which they operate. The following chapter provides detailed information on the research design, data collection, and analysis methods used in this study. I first discuss the rationale for a qualitative case study followed by the research context and participants. I also explain the rationale for allowing my primary participant to help shape the investigation through calling attention to important documents and suggesting work for observation. Finally, I describe data collection and analysis methods, and how these methods led to discovering the texts used in a home remodel, the nature of their use, and the consequences of such use. Data comes from two jobs, each representative of the most common types of jobs my participant completed: a bathroom remodel and a kitchen remodel.

Case Study Approach

Workplace ethnographers dwell at length in the spaces they study, getting to know participants, making detailed notes, and conducting extensive interviews. However, because of the time constraints involved with conducting detailed interview protocols or observations, I limited my research to a single case study which drew upon qualitative methodology. According to Hammersley and Gomm in their introduction to *Case Study Method*, a case study approach

involves “the collection of unstructured data, and qualitative analysis of those data” (Introduction). As it relies on data gathered in a natural setting, this approach allowed me to defer analysis until data had been gathered and avoid drawing upon my own biases too soon. Furthermore, “Other things being equal, the fewer cases investigated, the more information can be collected about each of them” (Hammersley & Gomm Introduction). A single case study permitted me to collect authentic footage and rich descriptions about one workplace. I conducted four interviews with my primary participant to learn about the texts he and his workers use regularly and the nature of their use. I further investigated the nature of the texts’ use through two observations while focusing on participants’ dynamic, socially-situated interactions around texts. Later, I drew conclusions about the consequences of such interactions for the workers and the system within which they acted.

Research Context

For the purpose of this study, an independent contractor is an individual who holds the trade skills and knowledge necessary to contribute his expertise to some aspect of a home remodel and has paid to register a license. The independent contractor is differentiated from a general contractor, who must pass a certification exam and is additionally qualified to handle structural components of a remodel. For the contractor in this study, “workplace” does not indicate a single location, but the various spaces he and his associates occupied as they completed each remodel job. These spaces include the primary participant’s home, the designer’s office, various supply stores, and the homes under renovation.

Participants

The primary participant was chosen because of our familial relationship. I have known my Uncle Kenny my entire life. Over the years, I have had the opportunity to learn more about his independent business. As a teacher, I collaborated with him as the construction expert hired to build sets for the school play. Additionally, I assisted with and watched the work he did remodeling my mother's house. As I began to take an interest in workplace literacy studies, I wondered where and how texts played a role in Kenny's work, and with what consequences.

I formally recruited Kenny based upon our prior discussions about his job and how it related to my interest in workplace literacies. When I recruited him, I explained that his agreement to participate in my research in no way affects our relationship as uncle and niece, and that I had another possible participant should he feel the need to withdraw from the study.

Although convenience factored into choosing Kenny, both his job and how he progressed to his current position made him an interesting candidate for study. Kenny, 56, began his career by taking a wallpapering and painting course at a technical college. At the time of the study, he was the owner of Designing Homes LLC,¹ working as an independent contractor who managed diverse exterior and interior home-improvement projects. His company typically worked with wealthy clients, focusing on bathroom and kitchen remodels. Kenny usually managed simultaneous projects in various stages of completion, and was responsible for handling all correspondence, ordering supplies, and coordinating subcontractors' schedules. He said, "Without the severity, [my job is] almost like working triage . . . to deal with problems before they happen."

Through the course of the study, I also observed two of Kenny's subcontractors:² Rocky, a plumber who worked with Kenny when jobs called for piping or fixtures; and Ned, a carpenter who often installed the cabinetry. In addition to subcontracting with Kenny, both men independently own and operate businesses in their trades. They have maintained working relationships with Kenny for 5 years and have been in the business for over 20 years. During our interviews, Kenny emphasized his longtime working relationships and friendships with both men, which he views as critical to their professional success. Finally, my job site observations included video footage of Anna, the homeowner whose kitchen remodel Kenny was overseeing. Anna had hired Kenny for several prior home remodel projects and took an active role in each step of the process.

Although the UCF Institutional Review Board determined that this study was outside its definition of human research (see Appendix B, IRB Human Research Determination), I obtained formal written consent from Kenny, the primary subject, and verbal agreement from the other individuals involved before recording observations. They were all aware that my professor and I were the only ones who would see the footage, which would be used solely for research purposes. Because interviews with Kenny demanded time from his schedule, I planned to compensate him with a restaurant gift card upon the study's completion. No other participants were compensated because the impact on their work was minimal.

Data Collection and Analysis

Interviews

Document-Based Interviews

In order to allow Kenny to help frame this study around the most important texts used in a home renovation project, I conducted two document-based interviews, both of which took place at Kenny's house on weekday evenings. Each time, Kenny selected the documents he felt were most important for us to explore. With his years of experience in the field, he was better suited to select documents important to his work so that nothing was overlooked. Furthermore, he was able to think ahead to which jobs I might later observe, which often guided his choices. For our initial interview, I emailed Kenny and asked him to bring at least three documents that he used in the business aspect of his job. (A copy of the email I sent to guide his choices and explain the process is in Appendix A, Pre-Interview Letter.) I used a hand-held video camera to record Kenny's description of each document and its use, sometimes standing over his shoulder in order to associate his words with the exact document and features he was describing, ensuring I would have a reference for later analysis. Conveniently, this choice also allowed me to collect screenshots of important documents, rather than having to rely on Kenny to furnish copies. We began by discussing Kenny's job duties before I moved the conversation to the documents themselves by asking Kenny to rank them in order of importance. This move allowed me to elicit descriptions of each document's purpose, value, and use without restricting the conversation flow. Interestingly, although he indicated that the proposal contract he used to bid on a job was

the most important document, Kenny was unable to rank the other texts in order of importance. Each document served an indispensable and unique purpose to the overall success of the job.

Kenny called to suggest a second interview to explore the Computer-Aided Design (CAD) drawings used during the kitchen remodel I would later observe. Like our first interview, this one took place at Kenny's kitchen table on a weeknight after work. However, this time the interview took on an almost didactic tone with Kenny controlling the pacing and teaching me what each document was and how to interpret it. Having the texts on the table in front of us, with Kenny identifying and explaining each one, seemed to reduce the artificiality of a traditional interview and credit Kenny's subject-matter expertise.

Initial discussion of texts during interviews allowed me to recognize the same texts used during observations. Furthermore, allowing Kenny the space to develop his own literacy narrative helped to uncover more of the cognitively rich practices Rose mentions, ones I may have missed or misconstrued without proper orientation and guidance.

Retrospective Interviews

Over the course of this study, I also conducted three retrospective interviews with Kenny. Retrospective interviews offer the chance for the researcher to examine previously collected data with a research participant, with the data serving as a catalyst for questions that explore emerging themes and fill in research gaps.

Seeking to foster a spirit of collaboration, and mindful still of my outsider status, I conducted a retrospective interview during which Kenny and I revisited our first interview and observation.³ I asked him to reflect on my initial perceptions of his work and emerging themes,

and to help me plan for further research. This interview was more informal than the others, conducted in his office, which has no door, while the family was visiting in another room and he had dinner cooking on the stove. In the interest of time, we opted to read through my transcripts and notes rather than watch the video footage. My primary goal was to make sure we were on the same page—that he agreed with my understanding of what he had said and done in earlier meetings, and with what I had chosen for further investigation. A second goal of this interview was to further explain my research, what it required, and what I hoped to learn.

We also conducted one retrospective interview on the job site of the kitchen remodel I later observed. This interview was critical because the location itself served as a “kairotic moment” and led to lines of questioning or explorations of ideas that may not have arisen in an off-site location (such as Kenny’s house).⁴ In a kitchen with spackled and half-painted walls, bare of everything except painting supplies, I asked Kenny to envision the site as he first saw it when asked to plan the job. Seeking further insight into his planning processes, and if and when texts played a role, I asked him what he might look for or notice first, and why. I continued asking follow-up questions and further prompting for what he might notice next. I then asked him to envision the space during what he called the “demolition phase,” when the subcontractors began tearing the space apart to make way for new flooring, cabinets, appliances, etc. From general questions regarding what he might look for or notice when he came to the site, I listened for information about his planning processes, job duties, and use of texts in order to form a more complete picture of workplace literacy practices to corroborate with observational footage.

Our final retrospective interview took place near the end of the study on a weekend afternoon. After organizing and analyzing all data, I returned to Kenny with copies of interview

transcripts, photographs, and a list of follow-up questions. During this interview, my goal was to clarify misunderstandings and fill in gaps in my description and analysis. At this time, I had a nearly completed draft, and shared with Kenny my description, analysis and conclusions so that he could verify that I had not misunderstood or misrepresented either the documentation that he and his workers use or the work itself.

Observations

I conducted two observations during the course of my studies, both chosen for convenience. Out of respect for Kenny's role as not only subject-matter expert, but also business owner, I relied on him to select observations that would allow me to see texts in action without being an inconvenience. Kenny responded almost immediately by inviting me to the first observation: an informal collaboration with Rocky, the plumber, to discuss a bathroom remodel. The observation began before Rocky arrived with a proposal brainstorming session, during which Kenny participated in a think-aloud, talking through the steps he takes to move from customer wish list to proposal draft. During the rest of the evening's work session, I hovered over the two men's shoulders with my hand-held camera and watched as they planned out the particulars of the bathroom remodel while making sketches on the yellow legal pad between them. Through observing the two men work, I gathered further data, including screenshots, to describe how texts are used in the workplace. I also began forming an understanding of the practices taking place around texts.

Kenny also suggested coming out to the kitchen remodel job to see a subcontractor and him using the exact CAD drawings we had discussed during our second document-based

interview. Together we selected a day where I would see as many literacy events as possible: a day during the cabinet-install work when he and his carpenter, Ned, would be triple-checking their work against the CAD specs. He selected this kitchen remodel site based upon the type of job and the homeowner's willingness (having contracted Kenny's services on multiple occasions) to accommodate my observation request. During this much larger observation day, I brought along my video camera and filmed any occasion when a text was central to the activity taking place. I observed not only Kenny and Ned working, but also their conferencing with the homeowner about the progress of the job, both of which involved the use of texts. In identifying each literacy event, I looked for situations when, "a piece of writing [was] integral to the nature of participants' interactions and their interpretive processes" (Heath 445). After analyzing workplace literacy events from both observations combined, cross-referenced with explanations from Kenny's interviews, I was able to infer the significance of the participants' literacy practices and answer my final research question about the consequences of such practices.

Data Analysis

Analyzing a text's roles in a particular context requires applying a framework to visualize the complex social puzzle of which the text is a part, including how the pieces relate to one another. Activity theory allows the researcher to map out the actors, tools (mediating artifacts), and social forces at work in any "activity system." Only then can a text's role as mediating artifact be fully understood. For instance, researchers applying an activity theory framework can analyze how subjects use various workplace documents to navigate the complex social hierarchy composed of coworkers, management, rules, regulations, and industry standards.

Activity theory, with its roots in constructivism, is an analytical framework based on the work of Vygotsky, who theorized that human behavior can be influenced through external mediating artifacts. In the Vygotskian model, a subject makes cognitive gains through social influences mediated by language. While Vygotsky's work is primarily concerned with early cognitive development, activity theory has expanded to encompass any sociocultural system with identifiable subjects, tools, objects, and context (Engeström & Miettinen 2).

Activity theory is a perfect lense for focusing on how literacy practices shape the way workers accomplish their objectives. The primary unit of analysis is the *activity system* (Figure 1).

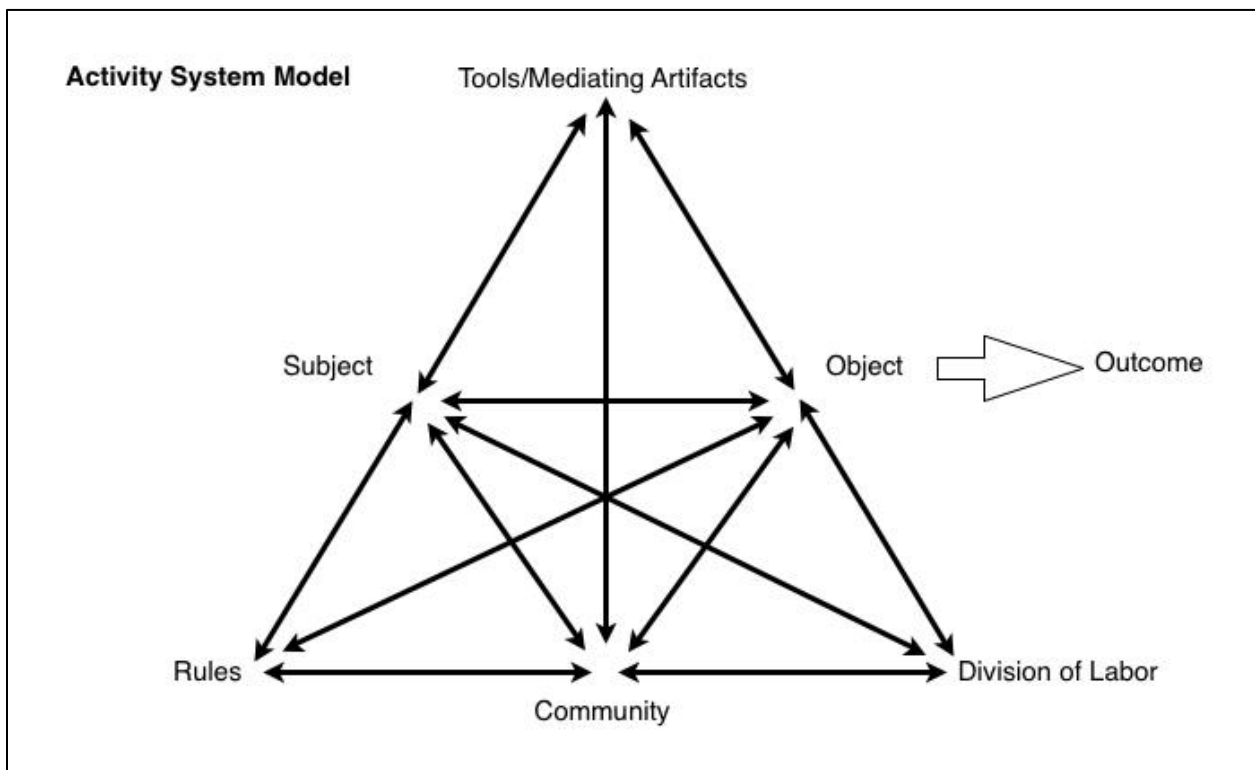


Figure 1: Activity system model

Collectively, the system includes the subjects, tools (mediating artifacts), and objects of the activity as well as the rules, community, and division of labor that make up the context within which activity exists. Developed by Engeström and Cole, this system represents “object-oriented, collective, and culturally mediated human activity” (Engeström & Miettinen 9). In other words, it is not just the mediating artifact that influences the outcome of an activity, but the complex network of people, artifacts, and unspoken practices that govern actions. Applying this definition, I identify each of the major projects I collected data on, the bathroom remodel and the kitchen remodel, as its own activity system.

In activity theory, the motives of the system are divided between objects and outcomes. Objects are the “immediate goals of activity” toward which the subject is working, while outcomes are more long-term goals (Kain & Wardle 276). Each project I studied is oriented around a discrete “object”: the successful completion of the remodel, as well as smaller benchmarks along the way, such as tear-down, painting, cabinet installation, etc. Achieving the object depends upon the collective work of multiple subcontractors operating within a unique, locally-situated work system. Within such a system exist many literacy events, or “activit[ies] in which written text plays a role” (Street & Lefstein, “Exploring literacy” 193). In identifying and analyzing each literacy event, I arrive at an understanding of the subcontractors’ literacy practices, or “the social practices of reading and writing and the conceptions or ‘models’ of literacy that participants use to make sense of them” (Street & Lefstein, “Exploring literacy” 193).

The concepts employed by researchers in the field of literacy studies, closely related to the components of an activity system, helped guide my data collection and analysis. In activity theory, the subject(s) is the “person or people engaged in activity who are the focus of a study” (Kain & Wardle 277). Similarly, in “Expanding the New Literacy Studies: Using Photographs to Explore Literacy as Social Practice,” Mary Hamilton describes these subjects, whom she calls participants, as “the people who can be seen to be interacting with the written text” (17). Following Hamilton, I use the term participant to identify Kenny because he not only actively participated in observable literacy events, but also participated in the research process through our document-based and retrospective interviews. Those individuals he interacted with using any of the workplace texts identified (Ned, Rocky, and the homeowner, Anna) are secondary participants.

In her study, Hamilton also describes the constituents of literacy practices, or “The hidden participants—other people, or groups of people involved in the social relationships of producing, interpreting, circulating and otherwise regulating written texts” (17). The overlap between activity theory and literacy studies becomes most useful when identifying and analyzing constituents, as the rules, community, and division of labor portions of the activity system map help me identify hidden participants. In the home-renovation system, these constituents include the interior decorator, cabinet designer, subcontractors not present during observations, and other local businesses Kenny patronized whose ideals and literacy practices affect the activity system. For instance, although I never observed the designer who produced the CAD drawings Kenny utilized, the designer is nevertheless a hidden participant in the room remodel system. The

designer shares in the division of labor by using trade-specific knowledge, along with Kenny's data, to produce the CAD renderings of the remodel.

In this study, I first identify the texts that allow Kenny and his subcontractors to complete their work, then examine the connections between these texts and other components of the activity system. In activity theory, texts are part of the system's tools. Tools can be physical or symbol systems (such as language) that allow the participant to interpret information and/or communicate to accomplish a task (Kain & Wardle). Hamilton, a literacy studies researcher, calls these tools artifacts; for her, they are exclusively tangible objects observable in literacy events. Hamilton differentiates between these observable artifacts and "all the other resources brought to the literacy practice including non-material values, understandings, ways of thinking, feeling, skills and knowledge" (17). The lense of activity theory allows me to analyze both the tangible and abstract tools mediating work (i.e. the texts and the talk around the texts that influenced the system). A researcher must observe tools in use to infer the practices underlying their use (i.e., the rules and division of labor in the activity system). Using the concept diagram devised by Engeström and Cole, I can isolate the mediating texts my participant used, and the rules that governed such use, while preserving a working understanding of how they operated within the overall system.

This framework for analyzing the workplace literacy practices of home remodel contractors takes into account the highly contextual nature of their work. For instance, in our first interview Kenny discusses the deceptively simple act of getting a price quote for installing a sink. It is not an easy matter: Where will the sink be installed? What kind of sink will it be? What kind of faucet? What is the piping situation like in the kitchen? Will that need modifying?

All of these variables exert influences upon the system that affect every aspect—including the literacy practices—of the room remodel. The activity system allows me to map out the various forces exerting influence as my participant works to complete a project, allowing me to examine how he uses literacy practices to achieve a positive outcome.

In activity theory, “people construct their institutions and activities above all by means of material and discursive, object-oriented actions” (Engeström & Miettinen 10). Through participation in an event (assembling a remodel contract for a customer, for instance), a contractor is exerting influence (however small) upon the construction community, shaping the practices and beliefs used to carry out such a task in the future. The system is always in motion and always in flux (Engeström & Miettinen 9).

Ultimately, I discovered how my participant harnessed the role of the texts he used to exert influence on the other forces at work in the system. The role of the homeowner in these literacy events was particularly interesting; although she was a novice in the construction field, she was a subject of the activity system, and the potentially shifting nature of her role helped me answer the final research question: what are the consequences of my participant’s workplace literacy practices?

Role of Researcher and Ethical Considerations

My primary role as researcher was to design and implement the study. I endeavored to not bring my own preconceptions and theoretical frameworks into my data collection, but saved those for later analysis and explication. I allowed my participant as much agency as possible to shape the course of the interview and what was important and worth focusing on. Whenever

possible, I verified my perceptions and inferences with him to make sure that I developed accurate interpretations of what I observed. Allowing participants to co-construct their own story may help avoid researcher bias as well.

There is some risk associated with the prior relationship between researcher and participants. Since a relationship already existed prior to the study, there may be pressure felt for the participants to engage in activities they might otherwise object to. To minimize this risk, I explained in writing that my participants had the right to end an interview, refuse to answer a question, or withdraw participation from the study at any time. I let my primary participant know that he was not the only potential case study for the project, so if he decided to withdraw or refuse cooperation he was not compromising the entire study. Finally, I designated an informant with no prior relationship to the participant for the participant to communicate with about the project should a situation arise that he felt uncomfortable discussing directly with me.

There was also some risk to participants' working lives as a result of participation in this study since their work practices and literacy skills would be recorded on videotape. Although pseudonyms could be used for participants and their companies, it would not be hard to connect participants back to their actual companies. The only way to accommodate for this risk was to allow the primary participant final say on what got included in the finished product in order to minimize the inclusion of any information deemed sensitive or personal. Although I was committed to an honest account of workplace literacies, my first and foremost commitment was to avoid negatively impacting each gentleman's business interests.

¹ In the fall of 2014, less than a year after my study, Kenny dissolved his business to work in commercial construction for another colleague. This career change had no relation to our collaboration. I use a pseudonym here when referring to Kenny's former business by name.

² Pseudonyms are used when referring to any of Kenny's subcontractors or clients.

³ The initial document-based interview and my first observation of Kenny and Rocky planning the bathroom remodel, discussed in the Observation section.

⁴ Halbritter and Lindquist discuss the concept of kairotic sites, based on Kenneth Burke's suggestion that the scene of narrative is key to its emerging development, in "Time, Lives, and Videotape: Operationalizing Discovery in Scenes of Literacy Sponsorship." *College English* 75.2 (2012): 171-198. Print. Their approach to narrative inquiry helped guide my interview choices.

CHAPTER FOUR: RESULTS

After conducting five interviews and two observations, I transcribed the video footage collected into a four-column chart. I organized the transcribed video footage into 30-second increments, along with a corresponding column to describe the actions taking place during each 30-second dialogue. As necessary, thumbnail photos of critical moments provided support for my descriptive notes. In the final column, I recorded immediate reactions and reflections to the footage. An example of the transcription method is available in Appendix C, Sample Transcription.

The interview transcriptions supplied the data to map out an activity system for each major type of home project observed: bathroom remodel and kitchen remodel. (The detailed activity-system maps are available in Appendix D, Bathroom Remodel Activity System and Appendix E, Kitchen Remodel Activity System.) Since the variety of documents and their uses overlapped between each type of job, and since neither type of job was observed from start to finish, I chose to merge the two systems and organize findings around kinds of documents and individuals who use them, rather than around the jobs themselves. This merging of systems worked because each discrete system formed a portion of the larger network within which Kenny's business operated.¹

This chapter describes the texts used during a room remodel followed by how each kind of text is used on a job site. Through referencing observed literacy events, I make inferences about the literacy practices associated with the documents, focusing on the participants, setting, and activities associated with each document. Finally, I discuss the consequences of texts' uses during a home remodel, specifically the ways that texts mediate both work and social relations.

In this way, I illuminate the distinguishing features and uses of each document before bringing them together in an examination of the common themes surrounding the consequences of their use.

Texts Used During a Room Remodel

The texts used by contractors during a room remodel are complex and diverse. Each serves a specialized role during one or more phases of the job. Some of them are made to be accessible to outsiders, such as the proposal agreement, while some are better understood by experts with working subject-matter knowledge. Throughout the inquiry, I allowed the primary participant to guide me toward the texts he felt were most important and most frequently used on the job. The texts detailed below are among those that recurred most frequently in discussions and observations.

Handwritten Notes, Lists, and Sketches

Handwritten notes and sketches are utilized when planning out a job, both during the initial stages of preparing a proposal bid and as the work begins. During interviews and observations, Kenny discussed drafting and referencing the client wish list and cost list during the proposal stages of a job. In the first observation, Kenny and his plumber, Rocky, used Kenny's signature yellow legal pad to sketch out renderings of the bathroom remodel they were planning.

As the homeowner and/or designer describe their vision for the remodel during the initial meeting, Kenny compiles a wish list (Figure 2). It is kept on yellow legal paper, with the client

name and an estimated project duration at the top of the page. The document includes a list of requests and any other information recorded during the meeting, which is usually conducted as a walkthrough of the space to be renovated. The information is listed in clipped entries: “remove soffit. vanity. toilet. remove wallpaper. towel bar. 6x9, etc...” From an outsider’s perspective, it looks almost like stream-of-conscious writing; every time a new idea or need comes up, it is simply written on the next line. If applicable, Kenny includes sketches of key details. For instance, the wish list he showed me during one of our document-based interviews included a rough sketch of a shower window. No dimensions were included, but the sketch indicated the shape of the window.

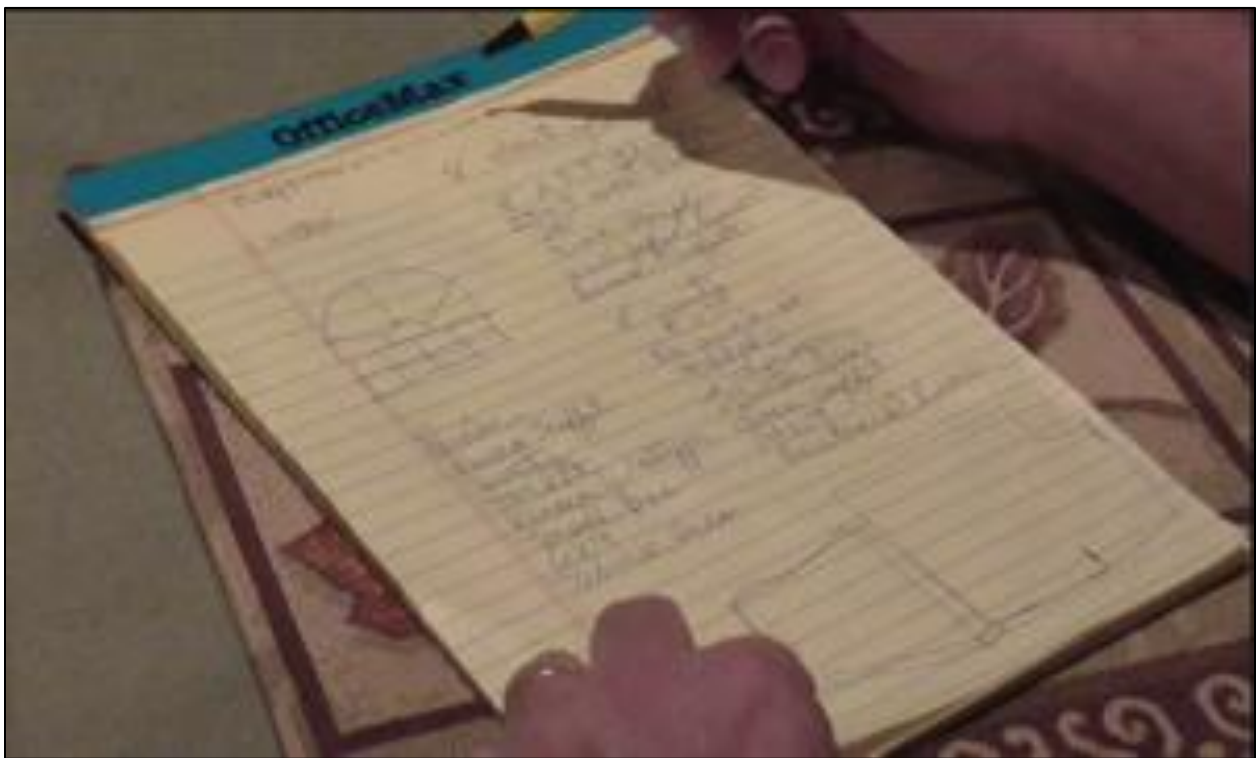


Figure 2: Customer wish list

One of the primary functions of the wish list is to help Kenny create the proposal used to bid on the job. From the wish list, Kenny later sits down in his home office (usually the kitchen table in the evenings after work) and compiles an itemized cost list. In roughly chronological order, he lists the project steps, each on a separate line, skipping no lines. Although he has the wish list out on the table as he works, he first moves quickly through the tasks to be done from memory, then checks against his notes when he has reached a stopping point. He then goes back through the list, line-by-line, and adds costs. This usually takes three to four sessions, plus revision time, during which Kenny corresponds with the homeowner and designer regarding design details and references old jobs for price guidelines. The cost list essentially serves as a rough draft for the proposal agreement itself. Although it will not be shown to the homeowner in its handwritten form,² Kenny retains both the cost list and the wish list throughout the job for reference. The literacy practices Kenny enacts when drafting the proposal closely resemble the revision processes seen in academia or white-collar, knowledge-based jobs. In his capacity as project manager and business owner, Kenny occupies a space at the boundary between white- and blue-collar work and challenges the social divide between kinds of work. He becomes a knowledge worker striving to market his renovation knowledge as capital through the completed proposal.

Together, the cost list and wish list help Kenny prioritize the homeowner's wants and needs. He asks the homeowner to rate each aspect of the remodel job on a scale of one to ten then records these numbers for later reference. If there is a cost conflict or the homeowner expresses doubts about the job, Kenny references the list and uses it to help eliminate

nonessentials. The cost list is also an easy reference for tracking budget and payments; Kenny can check the list and see roughly how much money has been spent, based on where they are in the job. While the homeowner may never see some of Kenny's informal documentation, she experiences the effects of their use when Kenny maintains an organized, efficient job site.

Another document utilized during the planning stages of a job is the sketch (Figure 3). During the first observation, a weeknight planning session at Kenny's kitchen table, Kenny sketched out the plans for a bathroom remodel on the same yellow legal pad he used for lists, turning it sideways to sketch. His goal for the planning session was to get an idea of the costs for Rocky's portion of the remodel.

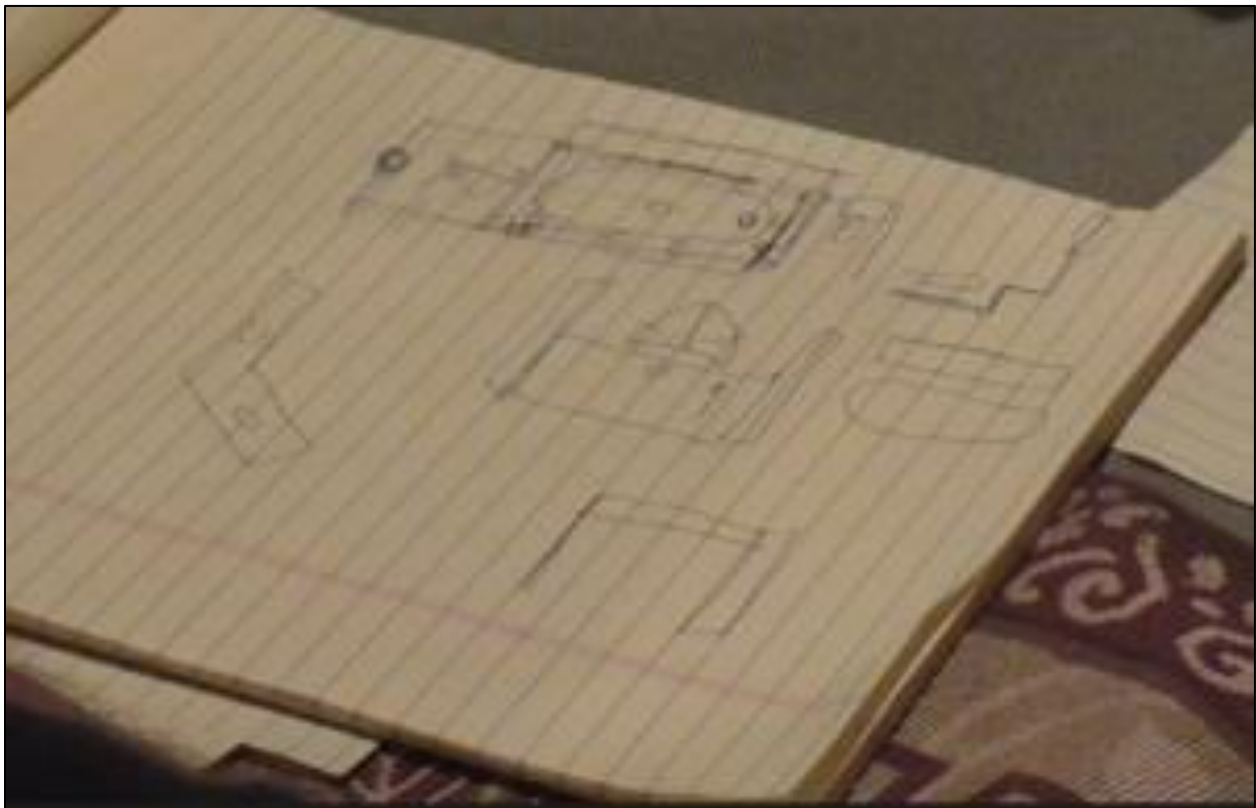


Figure 3: Bathroom remodel sketch

What was striking about the sketch work was how incomplete it appeared. As Kenny and Rocky talked, rough sketches of different components of the project were added to the drawing, beginning with a birds-eye view of the existing tub and shower. No room walls were drawn, and no labels or measurements of any kind were added to the sketch to delineate what one might be looking at. That was all discussed orally as the drawing was rendered. Kenny later explained that Rocky had been to the job site before and had a mental visual of the space; otherwise, the drawing may have included more details. Therefore, the composition of the sketch stemmed directly from the needs of those using it, including as much or as little detail necessary to facilitate discussion.

As discussion points were returned to, Kenny would trace and retrace over the items in question on the sketch, darkening the lines around these elements. Everything from start to finish was sketched on the same sheet: no separate before-and-after drawings. At the same time, not everything eliminated in the new design got crossed off; in fact, only the drain from the existing shower got crossed out, while everything else remained on the page. As new details came up in discussion, Kenny would move to a blank portion of the page and draw what was needed. For instance, when he needed to indicate what an arched window over the existing tub looked like, Kenny moved to a space below where he drew the existing tub and shower and began sketching. The result was an arched window, not to scale, floating mid-page below the existing sketch it belonged in. No arrows indicated where it belonged, and no labels provided supplemental information. The way Kenny utilized the page implies that sketches serve functional purposes during exchanges, stemming from the needs of the moment.

Some details of the sketch were no more than shapes—an almost graphic code. For example, Kenny drew a light line from the existing shower down through the tub when he discussed the slope of the new shower area. A scribbled circle indicated a shower control, a square indicated the body spray dispenser, and circles indicated the shower head and handheld. Some of these symbolic additions even seemed almost counter-intuitive; for instance, Kenny drew an arrow from the shower wall out as he discussed that they could *not* move the shower wall out further. Surprisingly, even when they got into technical details of where supply lines would be run, not a single note was added to the diagram; they merely continued to orally discuss what Kenny sketched and traced. The symbol systems and rough images used in the sketch suggest again that sketches serve a more immediate purpose than other kinds of documentation.

The use of personalized literacy practices for scaffolding work is well-documented by other workplace literacy researchers. These behind-the-scenes practices are not always visible to those outside the industry, yet they facilitate the visible production work on the job site. The work these documents do is often undervalued because, much like the sketch described above, they often fail to conform to any larger industry standards.

Proposal Agreement and Change Order

During our initial interview, Kenny selected the proposal document as the most important for getting the job completed. Although Kenny uses a “scribble pad” (his yellow legal pad) to draft proposals, the finished proposal is a typewritten document (Figure 4). It contains a standardized letterhead that includes Kenny’s company logo and contact information. Below the

letterhead, a header lists out the project title, customer address, document, version date, who prepared the proposal (Kenny's company), and each subcontractor's name and business name. Below this is a legal notice stating that the proposal is based on present information, that things may change as the job progresses, and that a "Change Order" will be drafted for all products or services outside of those currently listed. Below the legal notice, numbered, itemized "line items" list the main components of a job in rough order of completion. The line-item format makes it easy to remove an item if the customer changes his or her mind. This format is especially useful for "might-as-wells," a term Kenny has for the 10-20% of the final cost that comes from non-essentials that the homeowner decides to add because of everything else that is already getting done anyway. (e.g., "I might as well get the recessed lighting, since I'm already paying for the new, top-of-the-line cabinets.") Each item includes details stepping out, in fragment form, subcomponents of that portion of the job. Although labor costs are included with each line-item, Kenny avoids putting material costs on the document since those vary greatly depending on what the homeowner selects. The document concludes with a grand total, followed by an agreement and signature space. Each section of the proposal appears to have roughly 1.15-inch spacing, and there are roughly four lines separating each major section.

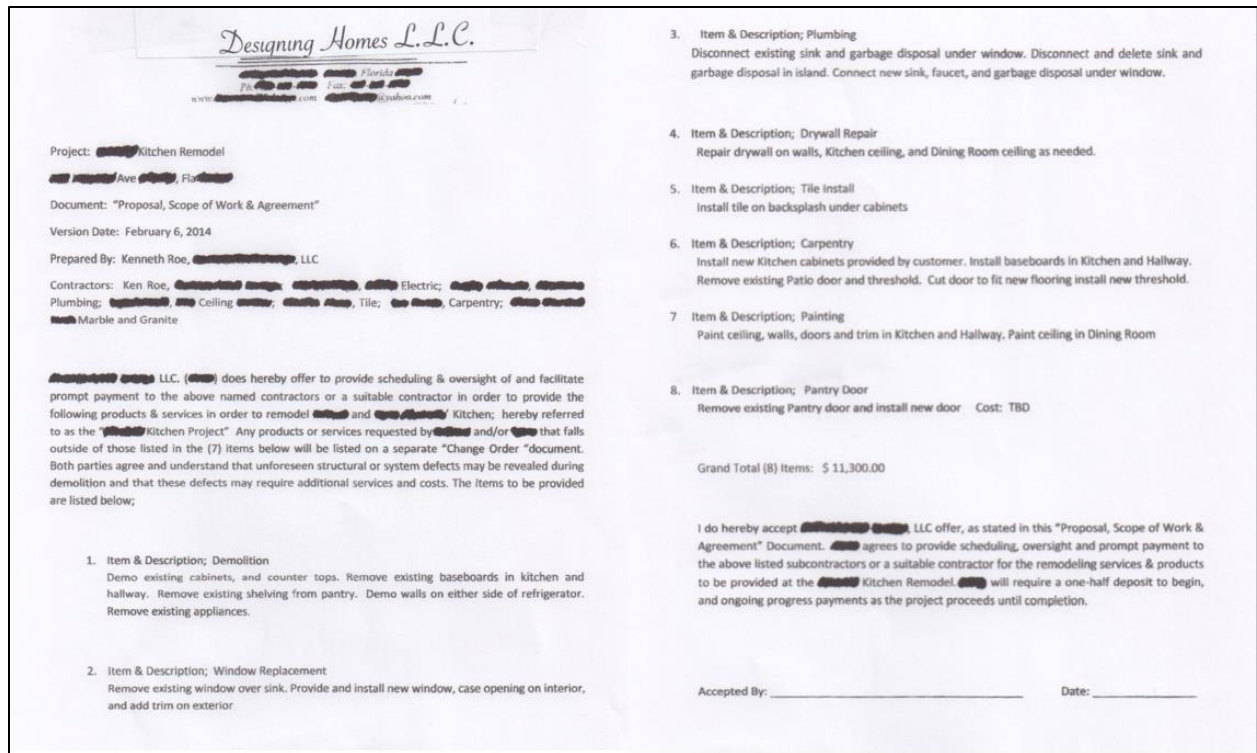


Figure 4: Draft of a kitchen remodel proposal (still missing itemized prices)

In the first interview, Kenny discussed the relatively new addition of typewritten proposals to his documentation. Over the past couple of years, disagreements and confusion over what was agreed upon verbally led to Kenny adopting a proposal agreement from another contractor he worked with. Prior to this, customers would receive a handwritten document delineating the proposed job. According to Kenny, using such a document was “time-consuming” because it was not detailed enough and the customer would have to call for clarification. He said, “Now the proposal is seldom questioned because it’s based verbatim on what they asked and organized so they can see exactly what they’re getting.”

Kenny's response to shifting customer needs reflect a rhetorical awareness that again blurs the line between stereotypically blue-collar work and academic literacies. His proposal practices also reflect the way literacies are shifting in response to greater accountability in the new workplace.

Proposals are used to both bid on jobs and keep track of what should happen when as the job progresses. In order to place an accurate bid, Kenny allows for multiple drafts and revisions between the meeting with the homeowner and actually placing a bid. He says he “[n]ever sit[s] down and write[s] the number and the bid and send[s] it off to them because constantly something will come to mind.” While he may confirm with his subcontractors the cost of their portion so they are aware of what they are bidding on, his goal is to keep the subcontractors out of the bidding process since it is time-consuming and takes away from their work on other jobs.

According to Kenny:

“The proposal is worded in a way from the beginning of the project to the end. So it will start with whatever demolition needs to be done, and then what needs plumbing, what needs to be done prior to tile, then the tile goes in. So the proposal reflects those steps.”

Because of this, the proposal dictates the order of operations—when to work versus wait for another subcontractor's contributions.

Once the proposal is agreed upon and work begins, change orders are used to make updates to the initial proposal agreement. Change orders follow similar formatting to the initial proposal: typed and itemized. No set rules govern when to use a change order; mostly change order needs depend on the nature of the job itself, and that varies. Use of change orders will depend upon the customer and the number of changes he or she requests. In general, change orders are created within no more than a two-week period so that the customer is not “inundated”

with the changes listed. Between each change order, verbal updates keep the customer apprised of the job status. Since the job can sometimes change rapidly, even hourly depending on time, materials, and customer demands, change orders cannot be written for each new development. Frequently, a single decision also affects other line items on the job. The change order system, like the proposal, is a response to the shifting literacy demands of the new workplace. Although Kenny and his workers rely on verbal exchanges to keep the customer informed, the climate of accountability in the workplace necessitates that even a small-business owner document in writing the progress and changes occurring over the course of the job. The format and practices surrounding change order use suggest that they serve the same function as the proposal agreement they supplement: a binding legal contract for services promised.

Specs and Computer-Aided Design Drawings

Another type of document that gets used throughout the room remodel process is the design specification, or spec. Within this document category, the most versatile, most widely used spec is the Computer-Aided Design (CAD) drawing. CAD drawings are rendered on a computer by a designer or supplier using the layout dimensions and notes provided by Kenny and proposed details from the designer.³ The drawings indicate the dimensions of the entire space, as well as the type and size of a particular feature, such as cabinets. Occasionally, a cryptic description of the type of piece or detail indicated will also appear. On the particular documents I learned about, numbers and letters indicate the width and height of the upper and lower kitchen cabinets the customer has chosen; letters indicate the type of cabinet, while

numbers indicate dimensions (Figure 5). CAD drawings are created before the finished proposal so that all involved parties can visualize the remodel for planning purposes.

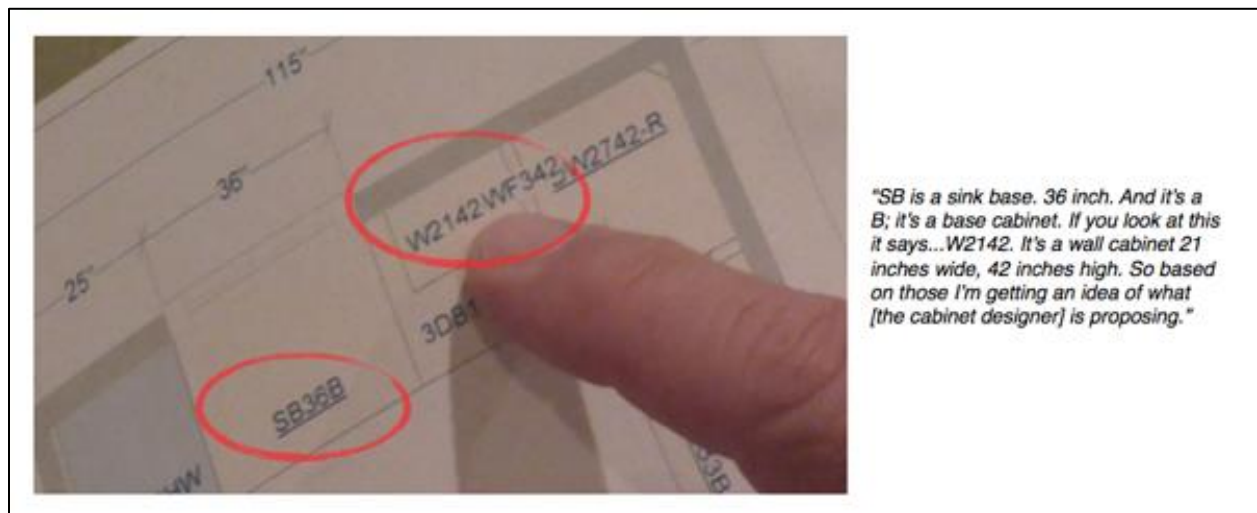


Figure 5: Kenny describes how to read a CAD drawing.

The CAD drawings discussed during the second document-based interview with Kenny are divided into three main types: full aerial views, sectional views, and three-dimensional views. The full specs provide an overhead view of the entire renovation space (Figure 6). Depending on the level of detail that has been decided on, they might show simple room dimensions or detailed dimensions of each cabinet and appliance.

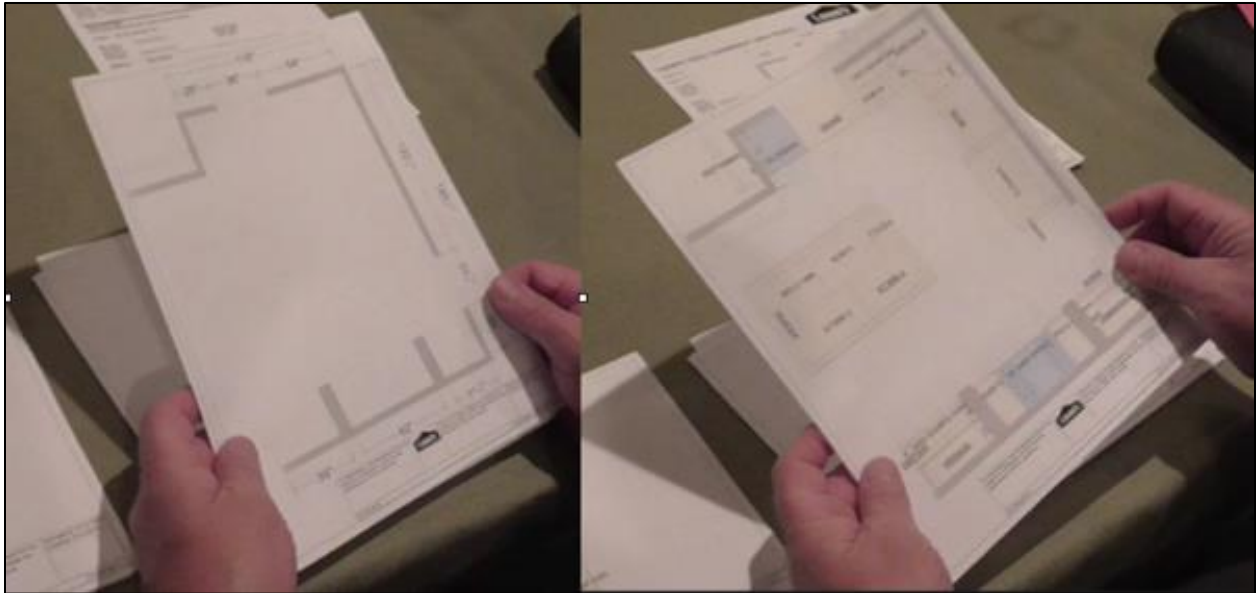


Figure 6: CAD drawings depict an aerial view of the space with degrees of detail.

Next, sectional drawings display chunks of the whole space from a frontal view (Figure 7). Created as design decisions progress, these sectionals provide more detail, such as what portions of the indicated space are cabinet, versus filler. As Kenny explains, each sectional is “giving you the dimensions of what that cabinet is doing,” while the larger spec is meant to provide a broad overview. All of the letters, numbers, and brief descriptions that appear on the frontal drawings also appear in their respective portions of the larger overhead view, although they may not clearly indicate what is happening in a particular section of the kitchen. To read the documents, one matches up letters and numbers to know which portion of the larger diagram one is viewing; or, as Kenny says, you must “know where you are on the wall.”



Figure 7: Kenny points to corresponding aerial and sectional views of the same wall space.

Finally, three-dimensional CAD renderings created once all design decisions have been made provide a visual of what the actual units will look like once finished, and often also depict subsections of the whole room (Figure 8).⁴ These three-dimensional renderings can also zoom in and out to provide broader or narrower detail of the same perspective. Some of the details discussed with the homeowner, such as whether a piece will contain cabinets or drawers, may not be visible on the two-dimensional specs but can be delineated on the three-dimensional ones. With the three-dimensional renderings, one must orient oneself to the features being depicted; only the details for focal piece(s) being depicted are included on the page. All three types of CAD drawings work together, providing a complete picture of the remodel job. They facilitate abstract thought about the space and how it will evolve as work progresses.

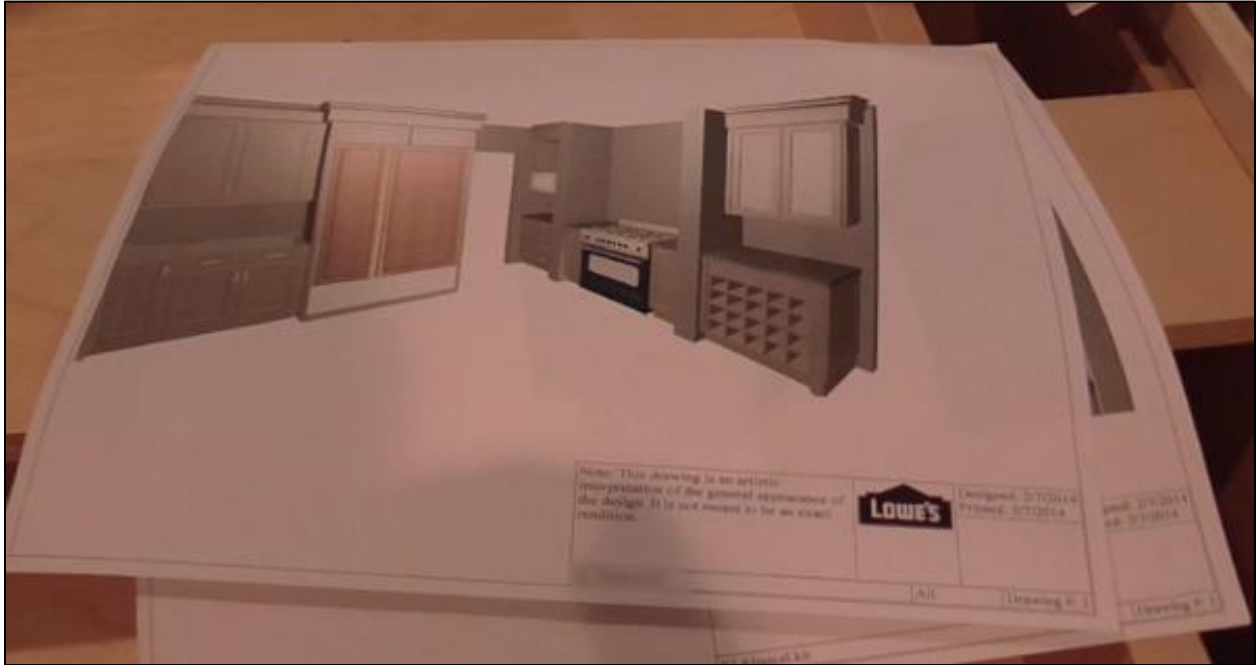


Figure 8: Three-dimensional CAD rendering

One of the earliest uses of these documents is to explain the proposed remodel to the homeowner. The computer can be used to model proposed scenarios and, as Kenny explains, “[w]ithin seconds [the homeowner] has a visual picture of what it would look like.” Often, Kenny interprets or “translates” these CAD drawings for the homeowner to provide a more complete picture of how the specs on the computer screen or printout will look in the finished space. Sometimes, this requires a visit to the remodel space to explain the specs in context. Kenny says, “A lot of people cannot see this [sectional CAD drawing], even this [three-dimensional CAD rendering], and picture how their kitchen’s gonna go, so you’ve really gotta stand there with them and show them.” The homeowner must review these plans and give the “okay” before work commences. Again, Kenny occupies a space at the boundary between blue-

collar and white-collar work since he and the designer utilize the CAD drawings not only to complete install work, but also to “sell” the design to the homeowner. Although he does not create the documents himself, he contributes to their production and recognizes their ability to bring the creativity behind the project to life for potential customers. Likewise, he recognizes the convenience afforded by technological advances within the industry that allow the homeowner to easily test out ideas before committing to a design.

Once the job commences, Kenny, the designer, and (depending on the complexity of the work) the installer all get copies of the CAD drawings. Kenny retains all paperwork for a job, including specs, in a file folder, which he keeps in a black zip-up case with all the other jobs he is currently working. He tries to keep all documents related to a particular component of the remodel together (i.e., all plumbing documents together, all cabinet documents together, etc.). Depending on his or her level of involvement, the homeowner may receive copies of some or all paperwork as well. Additionally, copies of all specs are posted on the job site for reference. Regarding the paperwork on the job site, Kenny explains, “It’s just anywhere [on the job] where people can see it...[T]hat way whoever comes in has a hard copy of what we’re trying to do, rather than giving everybody their own copy.” Since subcontractors are working multiple jobs at once, the aim is to avoid lost documents or confusion. Kenny reviews his paperwork to see what he needs to brief his subcontractors on before they arrive on site.

During the installation process, Kenny and his subcontractors use the CAD drawings to verify they are completing the installation correctly. In the case of cabinet specs, the carpenter checks each piece against the three-dimensional rendering and the two-dimensional floor plan to verify that he has the correct piece. He can easily see from the three-dimensional plan if he has

the right kind of piece, then verify the measurements on the two-dimensional plan for greater accuracy. If there is a mismatch, he consults the homeowner to make sure that plans have not changed. For instance, a slightly different cabinet fixture may have been selected since the specs were created. The installer is also able to see the reality of the job site versus what is on paper, and may contact Kenny if he sees discrepancies in the layout. When completing the install, the carpenter needs both the overview and the sectional specs; he needs the overview to know where a cabinet goes on the wall, but he needs the sectionals' frontal views to know the details of different pieces. For instance, there may be one- or two-inch spacers between cabinets that are not visible on the overhead drawing (Figure 9).

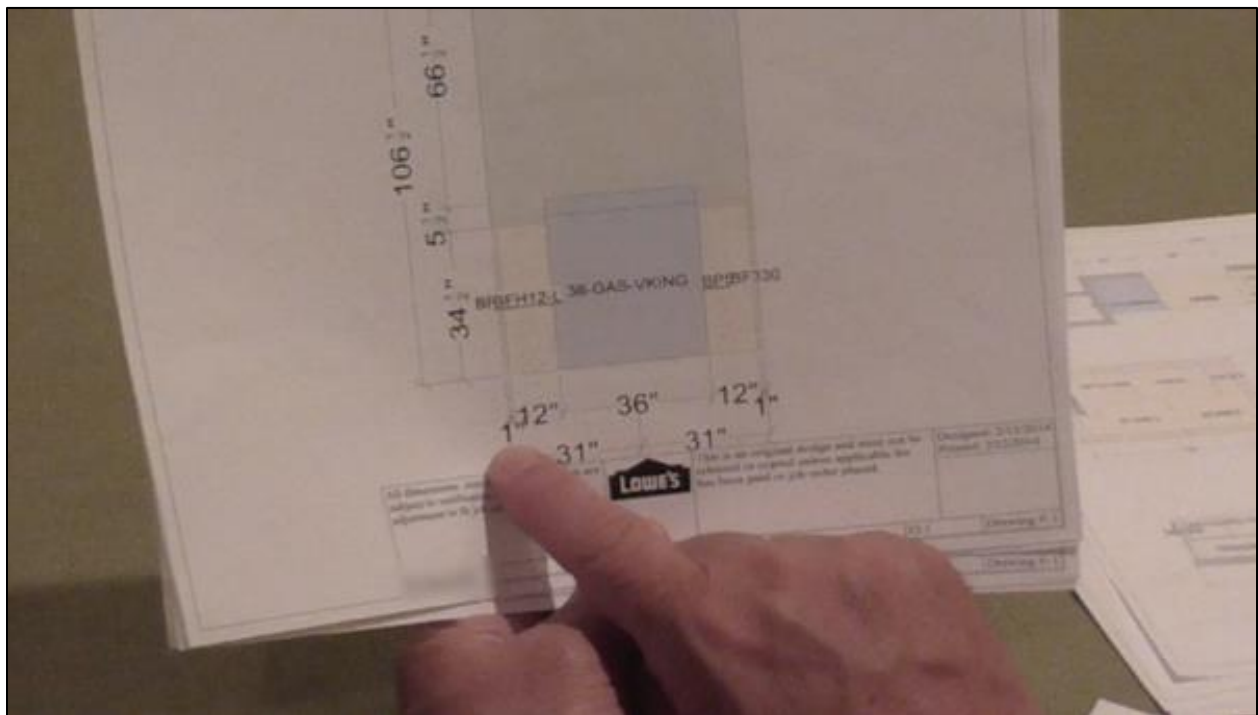


Figure 9: Kenny points out the filler space that is only visible on sectional CAD drawings.

Kenny may also reference the documents if he comes to inspect the work on a job, but he relies on them less closely than the actual installer: “If I see something, I will pull out a drawing and verify things . . . the only time you’d pull out the drawings is to do that, just to verify something.” When there are problems, Kenny and his subcontractors must stop and troubleshoot because a slight discrepancy between CAD drawing and reality can have a cumulative effect on the job. Kenny sums it up when he says, “It’s a lot of looking at this [sectional CAD drawing], in reference to this [overview CAD drawing], in reference to this [three-dimensional CAD rendering].” As a constant reference on the job site, CAD drawings constrain and shape the way workers complete the install. They reflect yet another way that the new workplace is defined by increased accountability and standardization.

The rules for specs described above also apply in a similar way to any other specs collected throughout the planning stages of a job. Similar computer-created specs are sent to Kenny for appliances, and every element of a job—everything from plumbing, to electrical work—has its own set of plans. The type of plan, and the information it needs to convey, dictates the format specs will take. For instance, a rendering for a detailed tile backsplash may need to be completed by hand, as the computer could not accurately render such detail work. Similarly, a drawn-to-scale sketch of crown molding for above kitchen cabinets also requires a human touch (Figure 10). Regarding hand-drawings, Kenny says, “Not only [are they] telling you what specific parts go where, but giving you how to make the parts go together to achieve that detail.” Each of type of spec is compiled and retained by Kenny, with copies displayed prominently on a job site. Once work is underway, each serves as a reference for verifying the accuracy of the work performed.

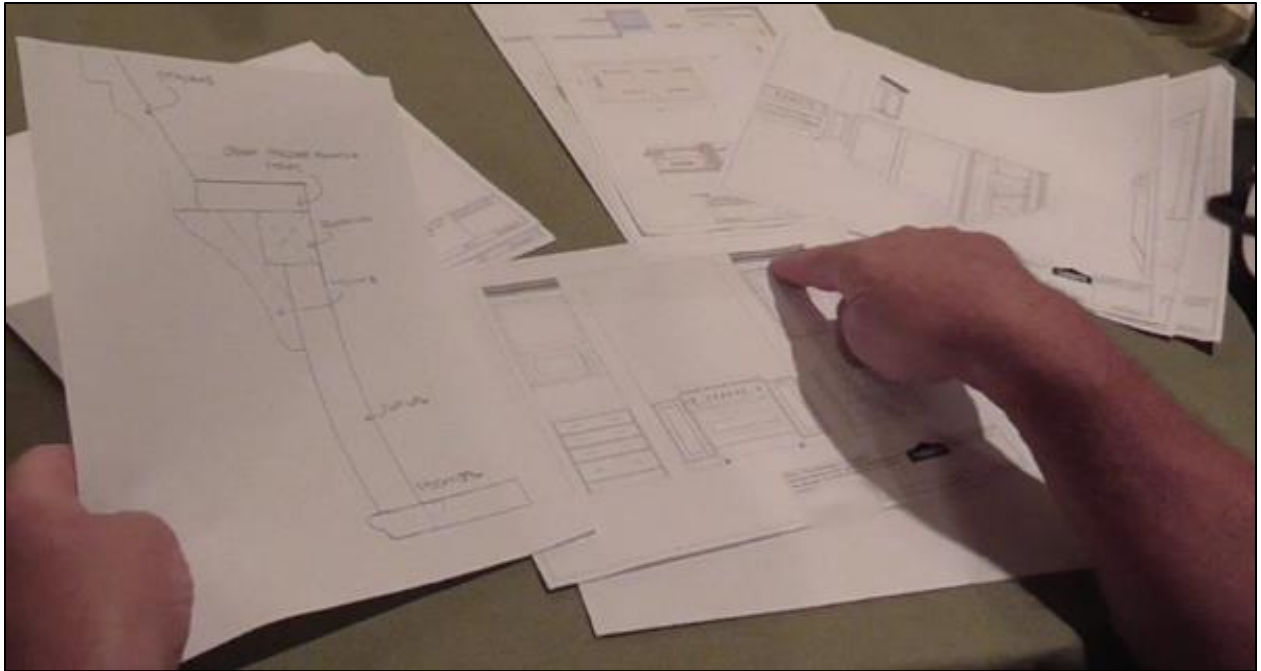


Figure 10: Kenny points out one limitation of three-dimensional CAD renderings: they cannot depict the crown molding details shown on the sketch in his left hand.

What are the Consequences of Textual Use

To analyze the consequences of textual use, I narrow the focus to a handful of specific literacy events. These cross-sections of the larger activity system described in this study allowed me to make inferences about the significance of textual use during home renovation work. In doing so, I looked more closely at the rules and division of labor portions of the activity system to understand the unspoken norms surrounding textual use and the role played by each subject.

Texts serve as mediators throughout the room remodel process. They serve a vital role in mediating the work itself, providing a reference for understanding how the job will be done and for verifying each step is proceeding according to plan. Their use provides a checks-and-balances

against human error. In an equally important capacity, for all involved parties texts mediate social interactions as well. For Kenny and his subcontractors, texts mediate collaboration, including planning and strategizing how best to get the job done. Furthermore, they function as a teaching tool Kenny uses to help the homeowner envision and understand the project so that she may confidently provide the “okay” for work to begin and progress. The cumulative impact of each textual mediator helps achieve the ultimate object and outcome of the activity system: the job gets completed because the customer understands and consents to the work, and the customer is satisfied because she was kept involved and informed along the way.

How Texts Mediate Work

During a room renovation, texts facilitate the smooth progression of work and allow workers to troubleshoot when things do not go as planned. Each type of text discussed from handwritten notes, to lists, to hand-rendered specs and CAD drawings is present on the job site, facilitating everything from inventory, to quality control, to scaffolding install work, to testing out ideas. Because the texts themselves are not the end product, it is easy to overlook the complex, widespread and critical role they play in effecting results. Furthermore (to borrow from Belfiore), the tapestry woven through the combined workplace literacies illustrates workers on the borderline between knowledge work and manual labor. The distinction between blue- and white-collar workers fades when participants use personal literacies to navigate job tasks, and leverage documents to forge social relationships and market knowledge as capital. Accountability practices also reflect a new workplace shaped by the increasing advances of the Information Age.

Discussing the Job

Off the job site, texts mediate discussions between Kenny and his subcontractors when they must meet face-to-face for planning sessions. Their work is dependent upon the renovation space itself, which constrains and shapes options for how to approach the remodel.⁵ While dependent upon the space as they plan out the project, renovation workers must compensate for times when the job site is unavailable to them. Texts fill the gap created by this limited access, allowing workers to envision details of the space as they make plans, ask question, and test ideas.

Using rough, informal sketches of the workspace, Kenny and his subcontractors can focus on the details of work to be done, rather than waste words trying to help each other visualize the space in question. For instance, Kenny began his planning session with Rocky, the plumber, by sketching out key details of the bathroom for which he planned to submit a proposal. The goal of the planning session was to get an idea of Rocky's costs for the plumbing portion of the job, which involved demolition of a bathtub and installation of a walk-in shower. To get an accurate idea of cost, it was necessary for the two men to have a mutual working understanding of what the project entailed. About a minute and a half into the sketching, a rapid back-and-forth exchange began, continuing for most of the planning session (Figure 11). Kenny and Rocky spoke in fragments, with Rocky interrupting to ask questions as necessary. Kenny controlled the pen, and thus the course of the conversation, which took its cues from the sketching. In turn, Rocky took advantage of the provided visuals, pointing and asking questions to solicit details, which prompted Kenny to add to his sketch. The document's placement between both individuals for easy access and readability further underscored the fact that this was a collaborative event. Being highly spatially-aware individuals, Kenny and Rocky used the

sketching to economize words and use gestures and pictures to make up for their lack of access to the job site.



Figure 11: Rocky and Kenny reference features on the sketch while discussing a bathroom remodel.

During such collaborative sessions, texts serve a transitory role. They are created to fill a temporary gap due to lack of tangible access to a job site, after which they may be cast aside or repurposed, if necessary. In the bathroom remodel discussion, the transitory nature of the text is underscored by the rough, incomplete picture created. Vital in the moment, the sketch contains details about the tub, actions necessary to convert it to a shower, and how the window on the shower wall will have to be altered. However, this kind of text is produced as a means to an end.

During a retrospective interview, Kenny confirmed that the bathroom sketch was meant to solicit information from Rocky: could he complete the project? What problems did he foresee? No measurements or notes were added—just enough shapes and lines to supplement memory and help Rocky plan what he needed to complete the work. Without annotations allowing a user

to return later and immediately understand the incomplete symbol system on the page, the document's usefulness could potentially fade over time. The lack of annotations, along with the way Kenny traced over details as they continued to come up in discussion, emphasized that the sketch's role was primarily interactive. It was a conversational tool to facilitate understanding and a plan of action, not a polished, reusable text. \

In fact, all texts used in home renovation work are ultimately transitory, secondary to the completed job itself. While the homeowner might choose to save documentation for bookkeeping purposes, or Kenny might save certain notes to reference on later jobs, the minute the last bit of sawdust is swept from the room the documents' roles shift and/or fade.

Product Inventory

Before any install work begins, texts assist with product inventory. A subcontractor looks at the packing list, verifies that all components were shipped, and measures cabinet pieces against what the CAD drawing indicates they should be.

On the kitchen remodel job observed, Ned, the carpenter, spent over half an hour attempting to locate cabinet pieces to install, a task easier said than done. Although materials had arrived with an ordered packing list, most of the cabinet pieces arrived in similar packaging and did not appear to be clearly labeled. Ned began by examining the CAD drawing depicting the wall that he would be working on that day (Figure 12). It contained two cabinets and the refrigerator, plus a doorway leading into the dining room on the adjoining wall.

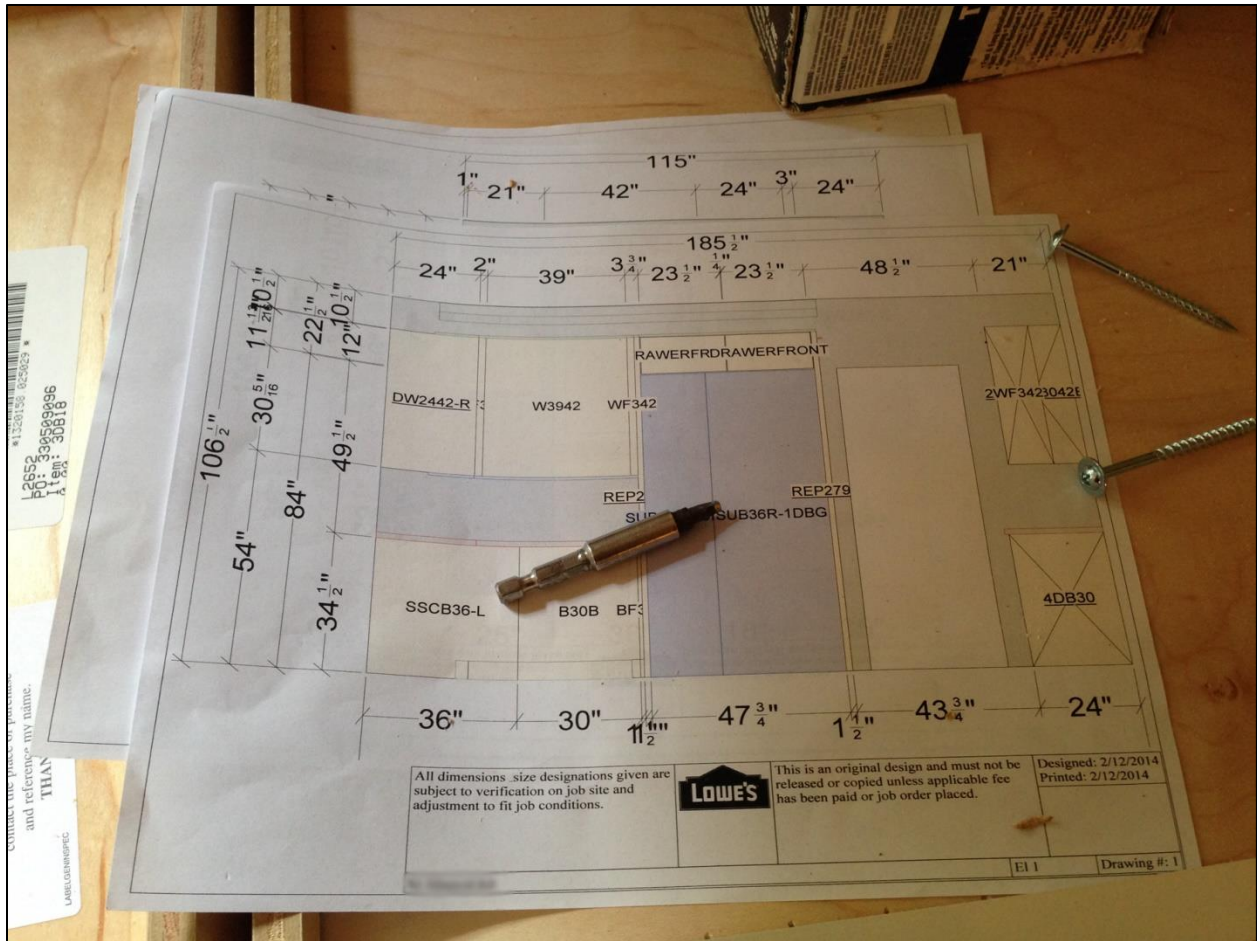


Figure 12: One of the CAD drawings Ned referenced during the cabinet install

First, he confirmed that a label on the CAD drawing read “WF342” (indicating a wall filler, 3 inches wide by 42 inches high). After he checked the label, he took his tape measurer into the front rooms where the inventory was stored and measured several likely contenders for a match. When he could not immediately find the matching piece, he returned to the kitchen and consulted the ordered packing list, placing it side-by-side with the CAD drawing first referenced to confirm both the dimensions of the install piece and whether or not a product matching those dimensions was shipped. Without both the specs detailing the cabinet dimensions and the list to verify the

right pieces were sent, matching up inventory to its proper location would at best take longer and at worst become a guessing game leading to misplaced product.

The literacy practices involved seem deceptively simple: find the measurement on the document, go and find the right size cabinet piece, verify dimensions if necessary. Nevertheless, Ned's actions make a case for the complex, specialized literacies involved in skilled manual labor. Home renovation workers must bring to the job site not only the knowledge to operate power tools, but the genre-awareness to decode documentation and translate the knowledge it affords into the task-specific actions necessary to complete the work. Ned's literacies go beyond surface-level meanings as he synthesizes information and applies the resulting understanding to job-specific tasks.

Quality Control

Before the first piece of the day is installed, the carpenter takes multiple measurements for quality-control purposes, verifying against the CAD drawings that each piece already installed and the pieces about to be added check out against the original plans. As Kenny explains, these measures are critical for job success because, "A few inches here or there do not work, accumulative as you go down the wall that could present a problem. So these dimensions [on the CAD drawings] have to . . . on the job site, they have to reference."

During the kitchen remodel observation, Ned used multiple literacies to double-check the work he had already done. The previous day, he had installed a corner cabinet, for which the CAD drawing provided only approximate measurements. Working from the CAD drawing, Ned had to supplement the diagram's guidelines by determining the exact angle to shave down filler

pieces so that he could create a seamless finished corner. On the day of the observation, once Ned “turned the corner,” he would be committed to the angles he chose to cut for the filler pieces.

Ned spent over half an hour confirming the dimensions of the corner piece and determining the effect they had on the rest of the cabinet row. He began by studying the CAD drawings he was working from. He then moved to one of the first cabinets installed to check multiple dimensions from different points of reference with his tape measurer. He made notes directly on the CAD drawing after taking these measurements. He also used a tool to measure something directly on the CAD drawing and trace a line on the page. His actions all contributed to calculations to make sure he could continue working from the angle he had chosen for the corner piece. The measurements and verifications covered not only pieces previously installed, but continued through to the as-yet-uninstalled fridge panel on the end of the line of cabinets. Ned needed to work several steps beyond the next piece in line to make sure that his chosen angle would continue to work in the space. Since cabinet pieces and fridge paneling cannot be cut, the only leeway Ned had to work with was the filler space between cabinets.

As an observer, I nearly missed the importance of what Ned was doing with both inventory and quality control because so much of it seemed like casual meandering between documents and materials. However, all of this work culminated in a crucial discussion about having to cut the filler piece between the cabinet and fridge panel, and an announcement to Kenny that they might have to change the crown molding dimensions. Ned’s literacy practices demonstrated one of Kenny’s golden rules in action: “Anticipate problems before they become problems.”

Ned's actions break down the divide between manual labor and knowledge-based work. In order to complete a cabinet install, Ned works at the intersection of power tools and mathematical instruments. Although the computerized CAD software provides installation guidelines, Ned must carefully calculate dimensions to fill in gaps in the computer's capabilities. He does not blindly use the knowledge provided in the documentation, but rather questions, tests, and supplements it to complete the install work. Consequently, Ned becomes a participant in the knowledge economy from which the CAD document originates, supplementing the original product with context-specific information so that it can facilitate the work for which it is intended.

Scaffolding Thought

Similar to quality control, multiple texts converge to scaffold the actual installation work. They limit the amount of mental juggling a contractor must perform and provide a final checks-and-balance against human error.

As Ned prepared to install the cabinet piece he had been working with all morning, he transferred the necessary dimensions from the frontal-view, sectional CAD drawing directly onto the wall (Figure 13). Using his index finger to mark the drawing, he would turn to the wall and write directly onto the surface, turning the wall itself into a three-dimensional "scratch pad" of sorts. Once accurately copied onto the wall, each hand-written measurement represented a checked-and-double-checked measurement that should be followed when completing the install. Although the CAD drawing contained dimensions necessary for checks and balances, the wall itself was an easier reference point once the carpenter's hands were occupied with tools and

materials. By taking advantage of his own life-size “scratch pad,” Ned created a temporary memory aid that allowed him to easily see (and verify one last time) which piece got installed and where it belonged.



Figure 13: Ned transfers measurements from the CAD drawing to the wall prior to installing a cabinet piece.

I watched the wall-as-text serve a similar scaffolding role when Ned and Kenny needed to test out measurements to confirm that plans on paper would check out in the actual work space. Given that they had a blank wall with no refrigerator to work from, and needing to test whether the paneling around the refrigerator would fit as planned, Ned conducted a series of measurements. However, rather than sketch and calculate on a sheet of paper, Ned sketched each

component of the test directly on the wall, knowing that it would be covered up once the job was completed (Figure 14). Each step of the process was marked off so that nothing had to be recalled from memory later. Ned began by measuring up 84 inches from the floor and marking the height of the refrigerator on the wall. Wanting to test where the cabinet door front reached in relation to the fridge, Ned measured the already-installed corner cabinet and made a mark where the door front ended. He then placed his builder's level caddy-corner to the wall and marked off a short line on the far right side of the tool to indicate drawer-front height. Finally, placing his level between the new mark and the mark indicating fridge height, he drew a straight line along the center of the level. From this, he was able to measure the distance between fridge top and cabinet-door top, and thus how the panels would need to fit above the fridge once installed. Although these dimensions had already been planned out on CAD drawings, the reality of the space did not correlate one-hundred percent, and Ned needed a way to test the actual dimensions before running into problems once he began drilling. He needed to determine that even though slight discrepancies existed between plan and reality, the purchased pieces would still fit and, if necessary, how to cut filler pieces to ensure the right fit. Being able to use the wall for note-taking purposes brought the troubleshooting test to life. At the same time, once the measurements checked out they were ready and waiting on the wall for the installation to begin.



Figure 14: Ned annotates the wall while testing measurements.

Again, Ned's actions challenge the traditional dichotomy between manual and educated work. Ned draws upon multiple literacies to complete the necessary scaffolding work, shifting from tools and measurements to documentation and diagrams. He must not only know which measurements to take and why, but how to interpret and apply the results to adjust the dimensions listed on the CAD drawings. Similar to the work they perform during the proposal stage of a job, informal literacy practices afford the opportunity to supplement the reality of the unfinished workspace, allowing workers to test assumptions before committing to a course of action. The practices reflect complex mathematical figuring that factors into each step of the install, yet they are often buried beneath the finished products they help bring to completion, and thus go unnoticed by outsiders.

The workplace literacy practices of home renovation workers reflect a rich tradition that defies stereotypes. Familiar tools long associated with construction work such as measuring tape

and levels merge with complex, computerized documentation to support calculation and synthesis work similar to academic literacies. Likewise, choices Kenny and his workers make reflect both rhetorical and genre-specific awareness of how to leverage texts to best facilitate work. Texts help to organize the job site and job-specific tasks. They afford opportunities for abstract, high-level thinking. Finally, they market Kenny's company and help develop his professional image. However, the myriad opportunities and constraints afforded by texts get overlooked when the texts are overshadowed by the actual renovation. Less visible social relationships fostered through text are likewise underestimated.

How Texts Mediate Social Relationships

Before analyzing the different ways that texts mediate social relationships, it is necessary to formulate a general understanding of how texts function as gatekeepers in a workplace activity system. Prior workplace literacy research supports the idea that workplace genres support content- and context-specific needs (Belfiore, Darrah, Defoe, Dias, Folinsbee, Hunter, Joy). A natural continuum exists between novice and expert, with a subject's ability to read, understand, and work with texts serving as one indicator of workplace expertise. In the remodel work I observed, the ability to read and understand complex schematics and renderings marks the dividing line between the average customer and one of Kenny's subcontractors. Kenny acknowledges that any one of his subcontractors could walk onto a job site, see the posted CAD drawings and hand-rendered detail, and be able to know what they are looking at and how to use it. He admits:

“Sometimes they'll have a question where they're looking at something and they're not seeing it correctly. And I'll say no, no, no, you're starting from here, and that dimension is from here, not here to here. That's about the only time the subcontractor will not be reading it correctly.”

Other than that, the various documents that Kenny posts are universally recognized by those in the field for the information they contribute to the job. For workers, they serve almost as gatekeepers to the job site.

In contrast, an outsider might not recognize the wealth of information right at her fingertips. For instance, during the kitchen remodel the homeowner overlooked an important document because she thought it depicted a different schematic than the one she and Kenny were looking for. Earlier than this, during my “crash course” in how to read CAD drawings, I spent 20

minutes asking questions about the different drawings before I finally figured out that the sectional CAD drawings were frontal, not aerial, perspectives. Kenny and I had been discussing the documents for the entire 20 minutes, under the assumption that I understood what I was looking at based on what he was describing, before we realized my mistake. I could imagine the mistakes that might have been made on the job itself had one of Kenny's employees been operating from my knowledge base.

Since the way a customer or outsider understands (and therefore uses) the various workplace texts differs from the way a subcontractor might use and understand the same texts, I have separated subcontractors and the homeowner for the analysis of the social consequences of textual use. This was done with the understanding that the separation is not discrete, and that overlap will naturally occur between individuals with more or less experience with said texts.

Subcontractor Relations

While the work itself is important, no job can move forward without collaboration between Kenny and his subcontractors. Texts augment the working relationship between Kenny and his subcontractors by helping coordinate each aspect of a complex web of activity. As Kenny explains:

“I need [the specs for each component of the job] because when the plumber comes to set his valves and such in the wall, you don't want the valve right where the accent tile's gonna be. So I've had instances where the plumber will call me and say, 'Kenny, I've gotta put those two valves in, but in order to do that you're gonna have to raise that accent tile because . . . either that or it's gonna go into that one valve,' or something like that. So that's why [the specs are] there,

because if he didn't see that, he wouldn't know there's going to be an accent tile there. Again, it's finding the solutions to problems before they're a problem."

Because work occurs asynchronously, the documents ensure that lines of communication are kept open and that each subcontractor knows the others' plans. By perusing all of the specs displayed on site, the subcontractor becomes aware of which aspects of his job must be completed immediately, and which must wait on the contributions of another subcontractor. Kenny explains, "Giving them a visual, there's no question to it . . . it eliminates a lot of me and them talking verbally on the phone. . . . Everybody has it. . . . It's stuck on the wall with thumbtacks on every job. So it doesn't matter who comes in." Adhering to the plans and carefully documenting any necessary changes ensures the job will continue to run smoothly for the next man down the line. When this happens according to plan, Kenny's worksite runs like a well-oiled machine. He often comments, "If [the subcontractors] don't have the tool belt on they're not making money." Assuring the job site runs smoothly communicates to his subcontractors that Kenny is respectful of their time, optimizing efficiency so that they can take advantage of other work opportunities. Over time, routine use of the texts in this fashion has developed a deep trust between Kenny and his team; they rely on him to continue to disseminate information, and he relies on them to know what to do with the information once it is posted. Meanwhile, the text itself is the critical component; without it, work would be thrown into confusion and productivity would decrease.

For Kenny's subcontractors, the job site itself becomes an additional text upon which they leave informal notes to one another that serve much the same role as the official documentation: keeping the lines of communication open and the job running smoothly. The week prior to my observation, the electrician had visited the job site to complete necessary

rewiring. I noticed that several wires coming out of the floor where the island would be repositioned were clearly labeled according to their function (Figure 15). As an outside observer, I initially thought, “That was nice of him.” I later realized that these notes, or annotations, on work surfaces were the difference between business as usual and an extra phone call (i.e., time wasted) to try and puzzle out which feed is which. This unsuccessful phone call might even necessitate a visit from the electrician, who would be pulled from another job site to deduce something that could have been solved the first time with proper documentation. Ned later returned the favor by marking in pencil on the top of each island piece the new switch locations, so the electrician could pick up the job when he returned after the cabinet installation. The practice of annotating one’s space was so embedded in the work itself that to the untrained eye it might have been overlooked as a literacy practice, its importance to the “well-oiled machine” underestimated.



Figure 15: The electrician annotated the wiring so that other subcontractors would see each wire's function.

Customer Authority

The customer I observed occupies a unique position in the home remodel activity system. She is not an expert in the field, and her only tie to the construction industry is as the individual who solicits the services of Kenny and his subcontractors. Despite this, she is a vital participant because without her the system would not have an object and outcome to meet and would either dissipate or redirect toward another goal.⁶ The homeowner is a key decision maker; without her approval (and financing), work would halt, and texts (along with the talk and work around them)

would lose their local meanings. In order for her to make informed decisions, she must understand the scope and vision of the project. This is where texts serve a vital role as mediators of participation and understanding, signifying her power and authority as decision maker and granting her the knowledge necessary to fulfill that responsibility.

Texts mediate participation in the activity system through signifying the customer's leadership role. On the kitchen remodel job, the homeowner's uses of documentation often paralleled Kenny's uses, albeit with potentially less depth and experience (Figure 16). As the manager of the entire project, Kenny kept all job-related paperwork in a folder with a zip case, which he opened and referred to when verifying plans. The homeowner also had copies of documentation in a similar-looking document case. As they discussed the job's progress, a question came up about whether or not the oven would sit flush in the brick alcove it originally sat in, and they needed to locate the appropriate specs to verify. When Kenny could not locate the specs that are usually clearly placed on the job site, the homeowner brought in her matching document case and set up next to Kenny to help him find the missing document. Meanwhile, the carpenter, Ned, did not produce a file with job documentation to help with the search. In fact, while the search went on he was busy measuring CAD drawings. Thus, even though Ned possessed more industry-specific knowledge related to the remodel, the homeowner was more Kenny's equal in this administrative capacity. However, there are limits to the power and authority being keeper of the texts offers. The homeowner expressed concerns over the usefulness of her documents, saying "I'm not sure I have all the papers you [Kenny] have. I think I just have mostly fluffy stuff in here." Although I did not inspect the entire contents of her folder, the "fluffy stuff" she referred to was likely the three-dimensional renderings, with their

absence of the numbers and notes that could have answered the question about whether or not the oven would sit flush in the alcove space.



Figure 16: The homeowner's use of documents parallels Kenny's as they search for a missing spec.

The homeowner's concern over whether or not she had all of the specs Kenny possessed speaks to the notion that, for customers, home renovation documents are authoritative artifacts that set the possessor apart from others on the site. This idea was further reinforced by her

multiple offers to go and check her email to see if she was able to produce the missing spec. She commented that she must have some of the more detailed specifications in her email, and in reference to the missing document stated, “I think he [the appliance salesman] emailed that to me . . . and you printed it and I didn’t.” About a minute later, she commented again, “I bet I have it in an email,” and “I don’t have those printed.” When Kenny offered to call the appliance salesman and get another spec, she countered his offer with, “That’s true. Or I can print it for you.”⁷ Through the homeowner’s need to prove she had a copy of the document in question, and her desire to control its acquisition, this exchange reinforced the idea that texts grant authority, in her case merely through their existence. Once the document was found, it took less than a minute for Kenny to explain how the power box would fit into the recess on the stove, after which the homeowner remarked, curiously, “Yeah, I knew that you wanted that piece of paper. Good.” Based on her comment, she seemed to consider the paper itself is the item of value, even more so than the information it presented. Because of the social significance the homeowner ascribed to industry documentation, these industry texts afforded Kenny an authority beyond what his subject-matter knowledge alone could accomplish.

Although her collection of documents signified her decision-making role, the homeowner could not independently read, understand, and act on what she saw on the specs. For instance, when they found the missing oven spec sitting just on the other side of the kitchen, the homeowner remarked, “Oh, see, you know what, I thought that was the range hood.” The document had been within their reach during the entire search, but because she lacked the genre conventions and subject-matter expertise necessary to properly read the spec, she did not understand that this was what Kenny needed to verify the oven’s fit.

Customer Relations

With respect to contractor-customer relations, specs become didactic. Because the ability to read and completely understand what a spec is delineating marks the difference between a novice and expert in the field, Kenny uses the various specs associated with the project as teaching tools when interacting with the homeowner, helping her reach the understanding necessary for peace of mind or decision making.

With regard to the oven question, the goal was piece of mind. Although the homeowner already knew what the kitchen would look like finished, and had approved the design, she needed to know that when the job was completed she would have a fully-functioning kitchen. The search for the missing oven specs began when she expressed concern that the island would be too wide for her kitchen (now that she saw the pieces assembled), preventing her from fully opening the dishwasher and/or oven doors. Once they found the missing specs, Kenny used them to explain what he interpreted from the texts to the homeowner, pointing to each component on the back of the stove illustration as he read the corresponding dimensions and information (Figure 17). The homeowner also used the document to point to different things she had questions about.

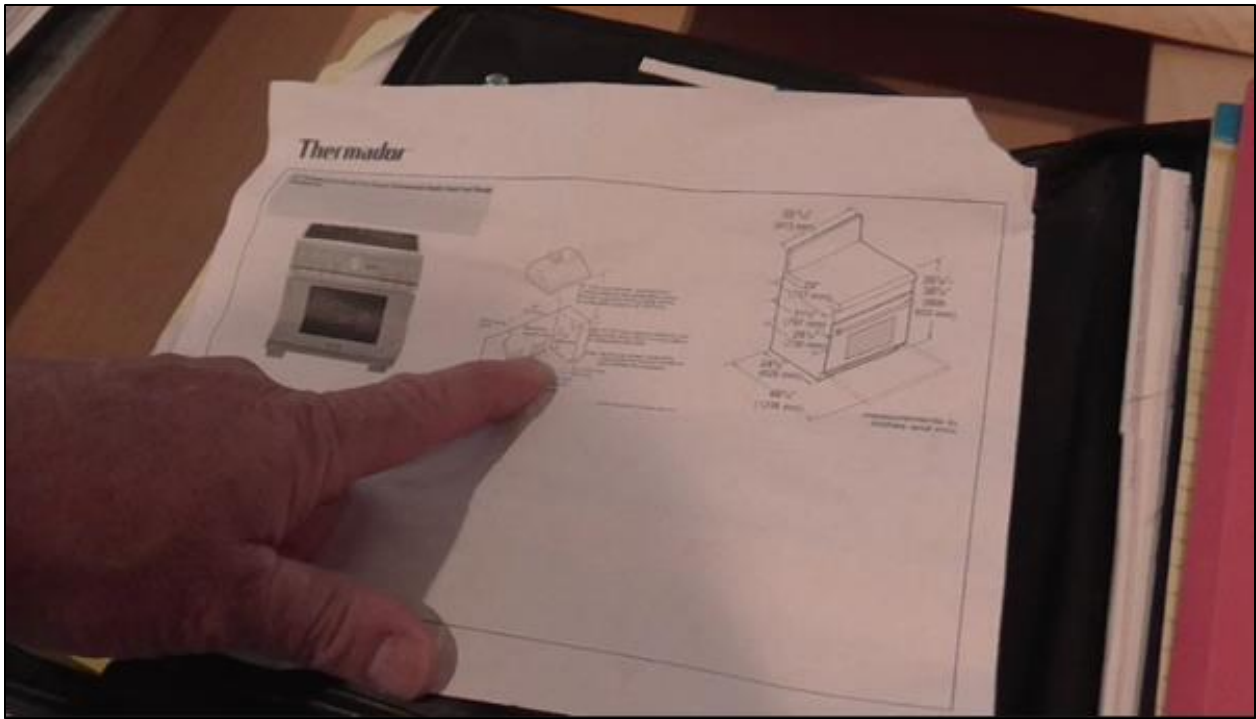


Figure 17: Kenny points out aspects of the stove spec as he explains them to the homeowner.

Similar to the role it played during collaborative efforts with subcontractors, the text itself filled in a missing gap during the exchanges with the homeowner. The actual job space in its deconstructed form contained an empty brick alcove with a half-installed power box. Although Kenny could reassure the homeowner that his workers would take care of everything, in order to illustrate how the install would work, he needed a representation of the finished product as a visual reference for their discussion. As she learned to read the spec, the homeowner began to understand that the pieces would line up as planned to achieve a working finished product. The text, combined with seeing the elements that had been put into place to prepare for the appliance's arrival, worked as reassurance of Kenny and his workers' expertise, something that either Kenny's word or the deconstructed evidence on the site itself could not do alone. In this

manner, texts granted Kenny authority as an expert in his field. His ability to read and interpret specs provided tangible evidence of his competency as project leader.

Limitations

Despite their usefulness during planning sessions, texts are still a limited substitute for the real space. The sketch Kenny and Rocky used to discuss the proposed bathroom remodel allowed for a ten-minute-long discussion of plans for (among other details) valve locations and where to feed the corresponding supply lines. However, the work session came to a standstill when the next aspect of the plan depended upon knowing for certain whether or not a “dropdown” space existed underneath the current tub. Once that question arose, getting an accurate price estimate became impossible without another visit to the actual site because, as Kenny told Rocky, “If we want to make this a shower floor and it’s not dropdown, we’ve gotta take down all that concrete and drop it down eight inches and then bring up four inches of concrete.” Rocky then reminded him that this would entail “termite seal and all that kinda stuff to make it to code.”

Not only is this a classic example of how one change can have a snowball effect on other aspects of the job, but it indicates one of the limitations of workplace texts. Although texts—particularly sketches and specs—facilitate myriad aspects of thought and planning, they are only as reliable and useful as their ability to accurately render a workspace makes them. Sketches fail because they stem from memory and human measurements, both subject to imperfections. Furthermore, CAD drawings are subject to the limits of the technology used to create them, also a product of human design.

Documents also have their limits with respect to the power and authority they afford the homeowner. Although they symbolized the homeowner's membership as an administrative authority, and were useful for facilitating her understanding of the remodel plans, only so much could be done to close the obvious gap perpetuated by her lack of subject-matter knowledge in the construction field. There were times during discussions with Kenny and Ned that she would grasp a document after its usefulness for the contractors or the verbal exchange faded (Figure 18). In fact, during a discussion over whether or not there were errors in the designer's dimensions for crown molding, the homeowner held onto the three-dimensional rendering she had used to discuss the fridge panels with Ned. Although related to the area of the kitchen being discussed, these documents outlived their usefulness once the discussion shifted and incorporated measurements, a topic to which she was less qualified to contribute. Nevertheless, throughout the entire discussion of whether or not cabinets needed lowering, she retained possession of the rendering. Despite its decreased utility, in the homeowner's eyes the document still represented authority and order on the job site, with the ability to transfer said authority to the possessor in the form of a participatory role and decision-making power. .



Figure 18: The homeowner continues to grasp the text beyond its usefulness for the exchange.

Texts both shape and are shaped by the literacy practices within which they are involved. As tools within the workplace activity system, texts afford opportunities for, constrain, and regulate both the job tasks and social relationships present during the workday. Kenny's workers use documentation to cross-reference their work, scaffold thought, and collaborate to complete job tasks. The texts constrain work by providing measurements to which workers must adhere (context allowing) and regulating the order of operations for the job. Kenny uses documentation to develop positive social relationships with his subcontractors and clients. At the same time, his control of documentation affords him authority and credibility as the lead contractor on the job, particularly in the eyes of his clients. Some of this authority is transferred to clients who opt for a more participatory role in planning or supervising the job (such as the homeowner in this study).

However, for all the work that texts are doing in the local system, their influence is not isolated at the local level. Especially in the Information Age, where knowledge spans time and space, texts enter the local level bringing with them influences from large globalizing forces, and continue to do work once they leave the local system. To neglect the larger spheres of influence within which texts operate is to leave unexplored the full breadth of implications for the work literacies are performing.

¹ In activity theory, “any local activity resorts to some historically-formed mediating artifacts, cultural resources that are common to the society at large. . . . Local, concrete activities . . . are simultaneously unique and general, momentary and durable” (Engestrom & Miettinen 8). In other words, each separate, observable moment contributes to an understanding of the system in its entirety, an organic system with no finite beginning or end (despite the fact that one may select parameters to define the immediate system under observation). The systems observed in this study, while discrete, draw upon historically-formed artifacts and procedures that already existed as part of Kenny’s business, which itself is a part of the “society at large” that Engestrom and Miettinen describe.

² Kenny discussed with me a time not long ago when he did in fact give a handwritten list to the customer. He discussed how this changed over time as the customer found it hard to read the handwritten document, and would constantly be calling Kenny for clarification.

³ Often, Kenny and possibly a subcontractor may make multiple trips to a job site to double-check dimensions. It is important to verify limits to the footprint—or the structural layout—of the room, and to double-check measurements before a completed CAD drawing is used to proceed with work.

⁴ During the kitchen remodel, Ned called these three-dimensional CAD drawings “renderings,” while everyone referred to the other drawings as “specs.” On the three-dimensional drawings themselves, a disclaimer identifies them as “an artistic interpretation: not intended to specify measurements or dimensions, yet still useful for seeing what the completed install will look like.

⁵ Kenny explained this to me when he discussed how decisions about the kitchen remodel I observed were made in large part based upon the “footprint,” or structural layout of the original space. Unless a homeowner wishes to make structural changes, he or she is limited by many of the decisions the original builders made.

⁶ One of the most important outcomes of the activity system is customer satisfaction, as this correlates directly with timely final payment, future contracts, positive reviews and recommendations.

⁷ During another event later on, her words implied the importance such specs and renderings held; when Ned asked her to leave out a copy of the wine rack rendering, she replied, “I can get another one of these, but I wanna keep this for [the designer] to look at.”

CHAPTER FIVE: GLOBALIZING FORCES IN THE HOME RENOVATION INDUSTRY

This chapter begins with a brief discussion of the work of Brandt and Clinton, who present a complication to the ideological model of literacy studies which carries implications for the current study. I use their work to argue that although this study was limited to a single case study, its implications reach more broadly into the field of construction work. Their research helps bridge the gap necessary to make a case for blue-collar workers as participants in the expanding knowledge economy.

Complicating New Literacy Studies

The debate between Great Divide and ideological theorists creates a dichotomy in the field of literacy studies, one in which literacy is either an autonomous practice enabling abstract thought or a locally-situated social practice adapted in unique ways by participants. Brandt and Clinton confront this dichotomy, arguing:

“Literate practices are not typically invented by their practitioners. Nor are they independently chosen or sustained by them. Literacy in use more often than not serves multiple interests, incorporating individual agents and their locales into larger enterprises that play out away from the immediate scene.” (338)

From this perspective, literacy is not derivative of or exclusive to local systems. While literacy practices may be visible on the local level, they rarely originate there. When they enter the local scene they bring with them social values, ideas, and assumptions from other localities and interest groups. The larger enterprises Brandt and Clinton speak of include whole industries or economies within which smaller groups operate. The researchers conclude that “if reading and

writing are means by which people reach—and are reached by—other contexts, then more is going on locally than just local practice” (Brandt & Clinton 338).

When texts circulate within changing or widening contexts, they are continually shaped and amended by local encounters. According to Brandt and Clinton:

“Literacy is neither a deterministic force nor a creation of local agents. Rather it participates in social practices in the form of objects and technologies, whose meanings are not usually created nor exhausted by the locales in which they are taken up.” (338)

Texts are being mediated locally just as they are also mediating a literacy event and exerting forces from beyond the immediate scene. To expand upon Belfiore’s tapestry metaphor, the local tapestry feels the constant give-and-take of threads being tugged from the edges of the local system, only to recoil from the tangle of influences from within.

Employing Bruno Latour’s actor network theory,¹ Brandt and Clinton suggest that texts could be the object-link between local practices with “globalizing tendencies” (347). As they explain:

“[T]he apparatus of literacy . . . [has] played a role in mediating larger and longer pieces of the social world, holding them in connection, across contexts. . . . Although we must always study local literacies, we can ask what is localizing and what is globalizing in what is going on.” (Brandt & Clinton 347)

Thus, while meanings in use are most visible and understood on a local level, one must step back and examine larger social networks to more fully comprehend the meanings of texts in use.

Looking Beyond the Local

Following Brandt and Clinton’s example, the literacy practices used during a home renovation can be traced back to influences beyond the immediate activity system described in

this study. Through this tracing, I identify globalizing trends and discrete interests which form part of the broader network within which local home renovation work takes place. By linking local practices to this broader network, I form a more complete picture of the way texts mediate the social context of the workplace.

In the home renovation industry, the CAD drawing has the most visible connections to the larger industry. CAD drawings are the thread that binds Kenny and his workers to the construction industry. Commercial hardware chains or private vendors create the computerized specifications. However, even these vendors do not bear sole responsibility for the content and formatting choices which guide document production. Such choices are constrained by the CAD software developed by computer software engineers for a range of industries that use computer-aided design for knowledge production. The very use of the CAD document to perform a task that could be accomplished entirely through paper-and-pencil drafting is a product of the Information Age. Widespread access to computers and software applications (and the convenience they afford) has helped shape the literacy practices surrounding construction work, propelling the industries and workers involved into the knowledge economy.

Kenny and his workers are not passive consumers of the CAD product. Kenny especially influences the production end of CAD document creation by providing measurements to the local hardware chain. He is the participant most involved in knowledge production as capital, working with the interior decorator and cabinet designer and using the CAD drawing to “sell” the remodel design to the homeowner. Furthermore, the document does not cease working when it arrives on site. When Ned picks up the document to complete an install, questioning and testing measurements to check for human error, and testing the authority of the document against

the reality of the job space, his manipulation of the intellectual capital vested in the CAD drawing incorporates him into the knowledge-economy system.

The CAD document serves multiple interests. For the hardware chain (in this study, Lowes), it provides a convenience to contractors (Kenny and his workers), enticing them toward choosing one business over another for products and services. Once produced, the document provides a source of branding in the form of the Lowes trademark logo. Since Kenny passes along copies of CAD documentation to the homeowners he works with, the Lowes brand travels with him and his work. A job well done reflects well on Kenny and his workers, but also spirals out to reflect well on Lowes, a facilitator whose services are recorded through product branding. In a mutually-beneficial exchange, Kenny's use of branded CAD documents when discussing a job with the customer affords him the added authority of membership in a reputable industry. As observed in this study, the customer recognizes the authority of computerized documentation, trusting it over more individualized practices or verbal agreements. While Kenny might be able to sketch out a layout on legal paper, the hand-rendered sketch would not carry with it the weight of industry standards and branding which marks it as a quality product. It would offer Kenny no membership or authority beyond those granted by his drafting skills. However, when Kenny makes the choice to use the industry-standard CAD drawing, the drawing affords increased marketability for both Kenny and the hardware chain where it originated.

As a constant reference on the job site, CAD drawings constrain and shape the way workers complete the install. By the time the subcontractors pick up one of the documents, their actions and choices are constrained by decisions made long before the document arrived at the work site. However, the drawings also perform a larger role, associating workers with the

broader commercial construction industry. Computerized CAD drawings branded with a nationally-recognized logo reflect yet another way that the new workplace is defined by increased accountability and standardization. When workers reference the drawings, they are (consciously or not) associating themselves with the practices of industry standardization employed by Lowes and other hardware chains. By extension, choosing to work from these documents also represents a promise to build to code and use industry standard products sold at Lowes or other reputable businesses. Just like Kenny, his subcontractors are making a professional choice to market themselves in a particular way when they use computerized specifications rendered on industry-standard software to complete a remodel.

The changing role of the proposal agreement signifies even more strongly how the Information Age is propelling so-called blue-collar workers into the knowledge economy, blurring the boundaries between knowledge work and manual labor. Kenny adapted the format for the proposal agreement from another contractor he worked with. The need for the typewritten document grew out of interactions with homeowners, who occupy a space on the border of the home-renovation system. Although homeowners are not full-fledged renovation workers, they fulfill a crucial decision-making role within the system. When Kenny entered the industry, it was more acceptable to provide handwritten documentation to customers as a record of promised work. However, the Information Age has shaped what society deems acceptable for business practices. With the growing use and widespread availability of personal computers, typewritten documentation has become the new business norm. Presenting clients with typewritten documentation communicates that a business has kept up socially and financially with the times. The business can afford to maintain a working computer and cares enough about its image to

produce a professional-looking document, an implication that filters into all aspects of business dealings. Consequently, the quality of one's construction work may be judged on the attention one pays to other aspects of business.

Although Kenny explains that the document is easier to read, and therefore his clients spend less time calling him with questions, perhaps the more professional image projected by the document also lends some peace of mind, as it represents a more legal and binding contract for promised work than a list scribbled on a piece of legal paper. Knowing that it has to serve as a binding agreement in an age of increased accountability and documentation likely influences the language, content, and formatting choices for the typewritten proposal.

Just like the CAD drawing, the proposal serves multiple interests. For Kenny, it is a means of marketing his services and securing the job. It also serves accounting purposes, allowing Kenny to keep track of funds and pay his workers. For the homeowner, it is a binding agreement of services promised, and a way to hold Kenny accountable for the work. Thus, just like the knowledge workers Brandt describes in "Writing for a Living: Literacy and the Knowledge Economy," Kenny produces documentation in which the text itself becomes a "vehicle for economic trade and profit" (167). He must "sell" his idea and expertise before any of his workers sets foot on site with a tool belt.

Limitations and Further Study

A potential complication exists, which I did not have time or enough data to explore, between the functions that texts serve for the homeowner and for remodel experts. While the homeowner's and workers' relationships with the texts overlap, limitations exist which prevent

the homeowner from full participation within the room-remodel system. Results suggest that the homeowner may fully participate in deciding *what* will happen on a remodel (up to and including giving approval); however, when discussion shifts to *how* plans will be implemented, her limited knowledge may prevent her from fully engaging with the text and, because of the text's mediating role, with the other workers. Nevertheless, I do not have enough recorded interactions between all three participants to confirm the extent of this observation, as I observed only excerpts of discussion in which all three were included. Further study of interactions between homeowners and contractors can help delineate the extent to which texts afford membership and authority for the homeowner within a specialized workplace community. This is important because, despite being something of an outsider, the homeowner still plays a role in the practices and outcome of the system.

Furthermore, while I was able to verify my observations and conclusions with Kenny's understanding of the room-renovation system, the homeowner's voice remains unheard. Because she occupies a role on the fringes of the activity system (an authoritative role that lacks subject-matter expertise), her perspective regarding texts, how they are used, and the meanings they afford may conflict with Kenny's perspective. Since my conclusions about consequences of textual use for the homeowner are the product of speculation correlated with Kenny's interviews, adding one or more homeowner interviews might complicate or confirm inferences. It would be particularly interesting to find out the extent to which the homeowner acknowledges the power of documentation in granting authority or agency.

While this single qualitative case study offers an in-depth analysis of literacy practices used by one group of home renovation professionals, the results are not widely generalizable

beyond the current study. The study itself may be replicated, yet the results will likely differ. Anna, the homeowner involved in the kitchen remodel, represents a potentially unique case. The clients Kenny works with are generally more hands-off. They can afford to hire a decorator whom they trust to make most decisions with Kenny. Although the role occupied by the homeowner may differ from study to study, the authority vested by documentation that I observed may present itself in similar ways during other interactions. Despite limitations, Brandt and Clinton offer hope that my work is a contribution toward understanding larger trends within the literacy practices of blue-collar workers, particularly those in the construction industry.

If the line between blue- and white-collar work is blurred, as this study suggests, researchers must consider the implications not only for workers, but also for education and training programs. For instance, a blurring of knowledge work and manual labor might reinforce demands for a college-educated workforce. While potentially offering increased respect within a social system that favors knowledge jobs, pressures for even greater formal training to meet the demands of the Information Age may create tensions for workers who, as Kenny describes, “don’t make money unless their tool belt is on.” On the other hand, if the literacy practices of traditionally blue-collar jobs are as complex and contextually embedded as this study suggests, what might more formal, higher-education programs designed to teach such practices look like? Could the workplace literacies of construction workers be replicated in a classroom setting, or is such training best left to an apprenticeship program fortified with knowledge gained from studies like this one?

Workplaces are often framed as communities of practice that develop unique literacy practices in response to forces both within and outside the system. However, researchers must

also consider the meanings-in-use texts carry with them into the community: how they act to incorporate participants into larger spheres and globalizing forces. The Information Age has shifted the focus from product production to knowledge production, its effects reaching even so-called manual laborers. Technological innovations and marketing practices affect workers' social status on the job as they use documents in work-related tasks. Since globalizing forces enter and shape local systems, it is important to continue studying their impact on the meaning-making surrounding texts used within communities of practice like the one in this study.

¹ Latour's *actor network theory* proposes that tools are actors which both frame local events, and transport ideals and practices between events.

**APPENDIX A:
PRE-INTERVIEW LETTER**

Uncle Kenny,

I was doing some studying tonight, and I found a "model interview" by the researchers who inspired my study. I have been watching it to prepare myself for the kinds of questions I should ask during an interview. I wanted to share it with you so you were aware of how our first meeting might go.

The situation they're modeling is a little different from ours, but I still thought it might be useful to see. We will not have as much video recording equipment: these researchers are making a video final product, so it's part of their process to collect much more "quality" video than I care about. We will have one camera. A small one.

The man, Bump's, task was a little different. He was asked to bring any artifact that he considered important to his work. I'm asking you to focus on 3 (or more) texts that are important or meaningful to you work. Because of this, our interview will not be identical to what you see on the video.

Again, I just wanted to share. Let me know if you have any questions, and let me know if you have picked a date that might work.

Here is the link for the video: <http://www.youtube.com/watch?v=EiJB6emVL00>

**APPENDIX B:
IRB HUMAN RESEARCH DETERMINATION**



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

NOT HUMAN RESEARCH DETERMINATION

From : UCF Institutional Review Board #1
FWA00000351, IRB00001138

To : Jennifer Silva

Date : November 04, 2013

Dear Researcher:

On 11/4/2013 the IRB determined that the following proposed activity is not human research as defined by DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 50/56:

Type of Review: Not Human Research Determination
Project Title: Workplace Literacy Practices of an Independent Contractor
Investigator: Jennifer Silva
IRB ID: SBE-13-09707
Funding Agency:
Grant Title:
Research ID: N/A

University of Central Florida IRB review and approval is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are to be made and there are questions about whether these activities are research involving human subjects, please contact the IRB office to discuss the proposed changes.

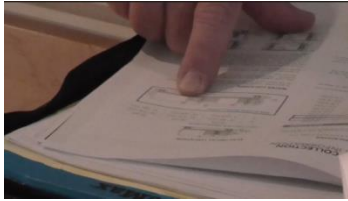
On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:




Signature applied by Patria Davis on 11/04/2013 04:56:32 PM EST

IRB Coordinator

**APPENDIX C:
SAMPLE TRANSCRIPTION**

JOB SITE VISIT #4 3-28-14

MIN.	DIALOGUE	ACTIONS	THOUGHTS /REACTIONS
1:00 - 1:30	<p>HO - i don't, kenny, i bet i have it in an email and i...i'll [something unintelligible] and see</p> <p>K - mmmm</p> <p>HO - i don't have those printed</p> <p>K - i could call andy and get another one so</p> <p>HO - that's true...or i can print it for you...nope, don't have it</p> <p>K - ok...i got a lot on the refrigerators...you see here for existence [??] that's where they're showing you the dimensions of exactly...</p>	<p>Again, K and HO actions are happening simultaneously.</p> <p>HO continues her flipping through what's left. Quickly flips through a few pages, then appears to transfer them to her "discard pile," but brings them right back and places them where they were (they almost looked like blank pages, some of them). Replaces the pages she had been holding aside in her right hand back on top. Then, she appears to begin flipping through the same stack she had just looked at. Once she declares "Nope, don't have it," she flips the small stack of loose papers she was looking at for a second time OVER and looks at the first colored (CAD?) document underneath (was it 2-sided?). She moves it into her discard pile. Then, she starts to flip up the next page underneath, which is now upside-down, when K points out the fridge document and she stops looking at her stuff.</p> <p>K looks at what's underneath the documents he moved, then shifts that document on top of the red file folder. He lifts the corner of the next documents in line to see what they are, then tucks the ones he was holding in his right hand under those last couple of documents. He taps them to straighten them. Then, he moves the document he set on top of the red file folder back over and begins flipping through the pages and looking at each one (seems more slowly/fully than with those other ones he just glanced through).</p> <p>He stops and points to a page about the fridge. She looks over, then moves over to see more clearly.</p>	
1:30 - 2:00	<p>...where the outlets have to be. because again the refrigerator's flush with the front of the cabinet so it's gotta sit all the way [unintelligible]</p> <p>HO - yeah, that one...the left one...just looks really close, to me, to that cabinet, but...so does the dishwasher, so</p> <p>K - see what this is showing here...</p>	<p>After he points to the document, he points to the wall to show in reality what she sees on the page. Uses the cabinet front they are standing in front of to indicate "flush with the front of the cabinet".</p> 	
1:30 -	K or N - yeah i can check that too	HO also points to the wall itself as they	

MIN.	DIALOGUE	ACTIONS	THOUGHTS /REACTIONS
2:00 (cont.)	<p>HO - because, um, that just looks really close to be the center of...of...that's the freezer, i guess. K - um N - hand me that, um...</p>	<p>discuss how close it looks to her.</p> 	
2:00 - 2:30	<p>...ordered packing list...isn't that...right there HO - yes N - that's how we find out what the number was (N mumbles to self as he looks/finds number) K - yeah see...the freezer's on this side, so this is the side against the cab-- HO - so it's off centered? K - right HO - ok that makes sense. because if it were centered, i kept thinking, gosh...</p>	<p>The packing list must have been close to HO on the island, where she and K had their stuff spread out. N takes the packing list (a stack of papers) over to the corner where he has been working (between kitchen window and fridge). He has his glasses on as he looks it over.</p>  <p>I can just see K and HO still flipping through their file folders side-by-side at the island.</p>  <p>N has looked up the number again, then removes his glasses and returns back through the dining room arch to look. K points something out on freezer document for HO again and she again stops looking at her stuff to move over closer and look at what he's pointing out. Again, he points to the wall to indicate in reality what they are seeing on the document. Both of them point to the document as they discuss, and look at the wall as well.</p>	<p>And this is all to verify things. I will have to go back and see if I can estimate how much time was spent looking over paperwork for these 2 things that need happening - the cabinet (which still needs to be found) and making sure the oven will go flush (which, does that even need to be done today?).</p>

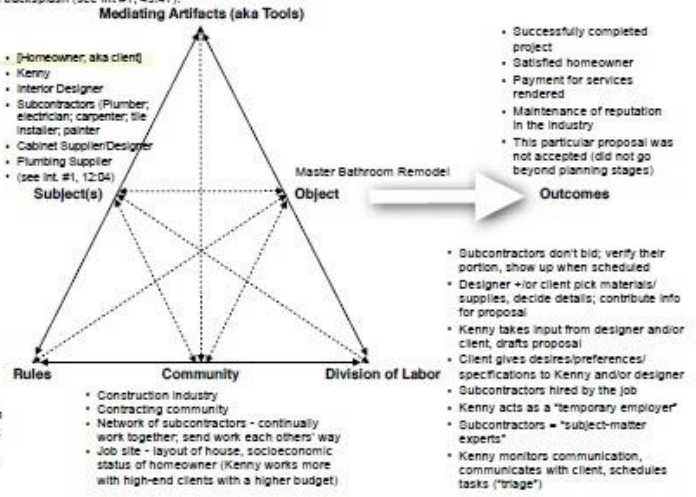
**APPENDIX D:
BATHROOM ACTIVITY SYSTEM**

Activity System #1: Master Bathroom Remodel (Interview/Observation Series 1, 12/6/13 - 12/9/13)

- **Handwritten Notes/Homeowner "Wish List"** (Int #1, 17:50) - yellow legal pad; loosely organized; client name at top; lists wants; info from initial meeting; rough sketches
- **Itemized List (includes Cost List)** - yellow legal pad; lists project steps, step by step, on separate line; no lines skipped; loosely formatted; roughly chronological order (Int #2, beginning; Int #2, Part 2, 1:36).
- **Saratoh Pad** - yellow legal pad; rough, often incomplete sketches of project components; not to scale; no measurements or labels
- **Proposal Agreement** - Typed/letterhead; lists involved parties; includes budget minus material costs; divided into sections based on work to be done; proposal of work and customer signature line for agreeing to services; organized from beginning to end of job (see Int #1, 12:04; 16:57).
- **Change Order** - Deletion or addition of work as project changes (see Int #1, 5:00)
- **Group Emails and Texts** - Discuss/coordinate changes; coordinate work schedule; Kenny (and others involved) get CC-ed
- **Contractor's License** - Needed to do the work, extraneous to the job itself (?). [Has he ever had to furnish on the job? -Not this job, but...?]
- **Subcontracting Plans** - Have different features depending on the type of work (see Int #1, 24:43).
 - **Plumbing Plans** - What type of document is this?
 - **Cabinetry Plans** - CAD (computer-aided design) drawing done by cabinet supplier (in this case, a well-known hardware chain).
 - **Tile Layout** - Hand-drawn; shows detailing of a backsplash (see Int #1, 43:47).
- Get photos of all documents

The subject is the "person or people engaged in activity who are the focus of a study on activity" (Kain and Wardle 3). The point of view of one or multiple subjects is used to study the activity. By this definition, if the homeowner uses the documents that will become my later focus, I must include her in this system. She is, however, unique because she is not a fully-fledged member of the primary participatory community.

- When put in writing vs. verbal agreement varies
- Keep subcontractors out of bidding process
- Kenny is CC-ed on all correspondence/documents
- Each type of plan is filed/stored separately (i.e. all plumbing docs together, etc...)
- Multiple drafts/revisions before bid given to client
- Material costs not included on proposal (vary)
- Use line items for optionals that may get added/ deleted (detailing, etc.)
- Rely on memory, then check against notes when drafting (?)
- Keep note format simple
- Make itemized list first, determine cost second
- Items listed according to order of operations
- When in doubt, go back and visit the job site again
- Sketch pad used to illustrate concepts during planning
- Anticipate problems in advance; plan accordingly
- Check with subcontractors RE: costs for their portion
- Proposal dictates order of operations - when to work vs. wait for another's contribution
- Licensed contractor for remodel; general contractor for structural changes
- Make mental notes of what you learned for future

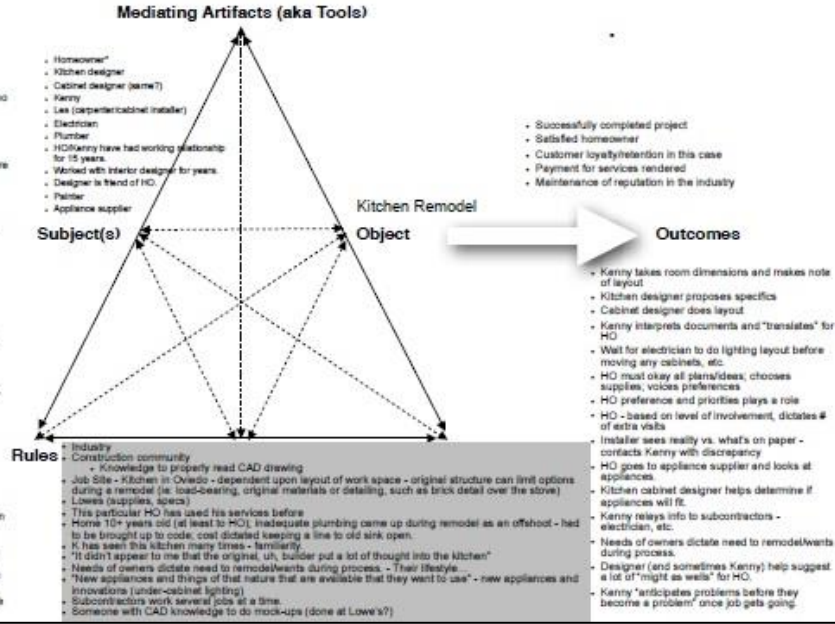


**APPENDIX E:
KITCHEN ACTIVITY SYSTEM**

Activity System #2: Kitchen Remodel (Interviews incl. Job Site 3-3-14 when HO filmed and Document Interview 3-17-14; Job Site 3-20-14)

- Kenny's handwritten notes/HO "Wish List" - Kenny's room dimensions used to create CAD
- CAD drawings - based on layout dimensions - indicates type and size of cabinets, W-H of upper and lower cabinets, letters = type of cabinet, #'s = cabinet dimensions
- Full CAD specs - overhead view only
- CAD drawing chunks of whole room plan (frontal view) - provide more detail - what's cabinet, what's filler, etc. (11:53 - 14:01; 3-17) - "It's giving you the dimensions of what that cabinet is doing"
- 3D CAD drawing (5:15; 3-17) - a visual of what the actual units will look like
- CAD drawing shows more detail (ie: gaps) between cabinetry and stove (10:56; 3-17)
- Part 2, 21:23 (3-17) - explains different CAD drawings
- Hand sketch for detailing (in this case, to scale) - crown moulding above cabinets
- Parts list
- Appliance center paperwork (specs) - indicates size and requirements of appliance selected (in this case, special power hookups)
- Kenny can picture the job completed. "Is it because you've seen the diagrams and things that you were showing me the other night?" "Yes, yes."
- Additional cost/changes get written down.
- Folder with all paperwork in it - kept in a 26-up case.
- "I am slowly becoming more technological, but... I'm still a pen and paper kinda guy. I think it's easier to transport... I find it's easier to locate... and it's only because... uh... using a computer on a daily basis I would probably learn more, but uh... efficiency-wise right now, I pull out the paper folder and open it up to all the stapled pages and... um, it's also uh... uh... Carol's taken 'em down now for painting, but normally there is, uh, paperwork hanging on the wall from a nail that shows, uh... the plumber or electrician what the kitchen's gonna look like when it's done, he may see something I don't see, but at least they're getting the visual on it to see, uh, what the final product should look like..."

- Multiple visits to double-check dimensions.
- Functionality first, design second (for Kenny).
- "Triangle" in kitchen layout desired (see transcript Pt. 2, 21:23; 3-17 for his explanation) - Stove/dishwasher/sink
- Verify limits to footprint (layout) before design is drawn up
- Learn to read documents on the job.
- Stop and troubleshoot if dimensions don't add up because can have a cumulative effect on job.
- CAD drawings used to explain proposed remodel to HO
- Standard labeling of CAD elements (cabinets, etc.) (2:55; 3-17) - helps all who need know specifics of new install
 - Installer verifies detail from hand drawing
 - Copies of documents for Kenny and for installer and for job site
 - Match up letters and numbers to know where you are on diagram
- Need both sets of CADs to know details of piece - fillers, etc. - and also where it goes on wall
- Movement between all 3 drawings - CAD, CAD frontal views, 3D CAD (3:52; 3-17) - had this marked???
- Installer checks pieces against floor plan and 3D to verify piece - go to HO if mismatch and verify
- Cost a factor - "cost effective"
- A project may be talked about long before it comes to fruition.
- "You just kind of throw things out there to see if they've thought about it"
- Have to read her cues - enthusiasm on different ideas. - she may ask questions, etc.
- Kenny gets copy over paperwork from appliance center.
- K reviews paperwork - appliance specs and layout - to see what he needs to brief subcontractors on before they show up at job.
- Some things are "might as wells" - additions the HO decides upon, after hearing cost, because rest is getting done anyway
- There's a typical "order of operations" - begins with picking things out/design, plumber or electrician first on job, followed by the other, new flooring, new drywall, paint, cabinet install...
- Certain needs/wants lead to others. Redo cabinets - want under-cabinet lighting, etc?
- If I see something I will put out a drawing and verify things... the only time you'd pull out the drawings is to do that, just to verify something"
- Helps "picturing it finished"
- "There's been surprises over the years that you live and learn and know... what you gotta look for"
- The time to "play with things" like moving a light switch to add a detail is when things are still pulled apart
- The paperwork on the job site: "uh, it's just anywhere in the kitchen where people can see it, uh... occasionally see it... that way whoever comes in has a hard copy of where... what we're trying to do... rather than giving everybody their own copy," [could get lost or misplaced, plus they work several jobs at a time]
- CAD can be used to model proposed scenarios for HO... "Within seconds she has a visual picture of what it would look like"



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