Running Head: Meaning and Identity in an Architectural Text

The Construction of Meaning and Identity in the Composition and Reading of an

Architectural Text

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Abstract

This study analyzes the composition by a high school senior of a house design for a class in architectural design. He produced this text in relation to the readings of that text by his teacher and other potential readers. The authors take a Vygotskian perspective to understand the settings, goals, and tools through which he composed his architectural plans, drawing on a cultural theory of reading to analyze how this text was understood by his most immediate reader, his teacher. The data include field notes based on daily observations of the semester-length course, an observation-based interview with the teacher, artifacts such as the student's drafts and final design, a recorded feedback session in which the teacher discussed the drawing with the student, a concurrent think-aloud protocol provided by the student while designing his house, and a retrospective protocol in which the student reflected on his composing process using the completed architectural design as a stimulus. The analysis identified a set of processes and social relationships involved in the composition and reading of the house design, including the role of cultural knowledge and practice in the student's apprenticeship into an approach to architectural design, tensions between goals of the student and his evaluative readership, tensions between definitions of economics that informed different conceptions of house design, and tensions between the student's inscription of meaning in the architectural text and his teacher's encoding of meaning in his reading of this text. The student's negotiation of these processes and tensions contributed to what we understood to be the larger project in which he was engaged, that being his ongoing development of an identity and life trajectory.

The Construction of Meaning and Identity in the Composition and Reading of an Architectural Text

In this article we present a case study of a student composing a significant text in a high school class. We focus on his inscription and representation of meaning in the textual codes and the ways in which those codes were interpreted by his readership, particularly his teacher. The text was an architectural drawing of a house that the student, Rick, designed to suit the life he imagined himself living. As such, it embodied a particular meaning for him and vision of how it would function in service of his conception of a good life. Critical aspects of that inscription were apparent to his teacher, Bill, following much discussion with Rick. Yet Bill read key aspects of Rick's design as violations of common sense rules for designing homes for the suburban housing market and consequently resisted, although ultimately accepted, Rick's design as a viable text. The tension between Rick's inscription of narrative meaning in his text and the meaning anticipated and read by his teacher—a tension that existed not just between student and teacher but in the broader cultures in which each participated—serves as the impetus for our study of how meaning is inscribed and read in this form of graphic text.

We cast our study of this author-reader relationship as an investigation of reading as an inherently cultural process, drawing on Smagorinsky's (2001) outline of a cultural theory of reading. We next review the tenets of our framing theory, itself grounded in a Vygotskian perspective on literacy development.

Theoretical Framework

Vygotsky's (1978, 1987) work has been appropriated by a number of researchers interested in literacy practices (e.g., Lee & Smagorinsky, 2000). Vygotsky's formulation

is concerned with the development of mind, including the historical development of whole cultures (and their various subcultures and idiocultures) and the tool-mediated development of individuals through their practical activity within overlapping cultures (Tulviste, 1991). According to this perspective culture provides the overall goals, values, and notions of appropriate action in settings that sanction the use of tools in particular ways (Leont'ev, 1981; Wertsch, 1985) and of the kinds of signs and texts that people produce through these tools. Each of these constructs is central to the conception of composition and reading that we outline next and that informs our reading of the data in this study.

<div align="center">Meaning in Composition and Reading</div>

The Role of Settings

Vygotsky's (1978, 1987) approach emphasizes human action in relation to social settings. We use the term setting to describe the social environment in which human action takes place. The social environment consists of people and their cultural practices, mediational means, and products. A setting can therefore consist of a human relationship, mediators both tangible (e.g., a computer) and intangible (e.g., a speech genre), and the human made material environment that both embodies and helps to produce human action (e.g., a classroom with chairs bolted to the floor in rows facing the front). Environmental factors that are not human productions can also be part of a setting, such as the geographic conditions that influence cultural practices (e.g., the mountainous Korean landscape that requires strong legs and thus contributes to the kick orientation of the martial art Tae Kwon Do) or the abundance of particular animals that provide food and shelter (e.g., buffalos in relation to the indigenous societies on the U. S.

Great Plains prior to White expansion). Settings involve relationships among people and these environments (Lave, Murtaugh, & de la Rocha, 1984).

Settings are fluid and dynamic and include multiple sets of overlapping goals, values, discourses, tools, and other residue of social life (Smagorinsky & O'Donnell-Allen, 2000). People act in relation to them, are engaged dialectically with them, and in most cases have agency to change them. Settings are not deterministic but rather serve to constrain and afford particular kinds of action (Cole, 1996; Valsiner, 1998) that in turn can reshape these mediating contexts. The relational aspect of a setting is critical in that settings are usually open to negotiation. This relational dimension obtains both in the settings provided by people (e.g., the people in a classroom or smaller units such as dyads within classrooms) or in those comprised of human artifacts (e.g., a constructed environment such as a classroom and its accoutrements), which as Cole argues are saturated with cultural history.

Engagement in multiple settings can produce conflicts in the goals of individuals within settings, which in turn contribute to tensions and contradictions for participants, particularly those who are being apprenticed into a discipline (Prior, 1998). These contradictions and juxtapositions, while capable of producing dissonance, can also contribute to new learning among all participants, whether designated as teachers or students (cf. John-Steiner & Meehan, 2000).

Settings also embody cultural practice over time and thus have a strong historical dimension that in turn helps to channel further cultural practice. People infuse a setting with a sense of ideal purpose or telos (Wertsch, 2000) that calls for the development of cultural values and practices that help this destination to be realized. The motives of

settings can strongly suggest that particular ways of composing and reading are appropriate (Leont'ev, 1981; Wertsch, 1985). These motives also suggest that participants must solve particular kinds of problems so that cultural goals and destinations may be achieved. Issues of culture inevitably involve power in that cultural practices are situated within historical activities and discourses that propel participants toward particular ends, often those that serve the interests of those who have inherited or attained authority. The culture of the setting in which reading takes place suggests better and worse ways in which a reading might unfold and more and less advantageous ways in which readers position themselves through the capital provided by their readings. Through both explicit and implicit cultural practices, novices are apprenticed to adopt local and societal goals and learn conventional ways of accomplishing them (Wenger, 1998).

This attention to cultural mediation and the broader role of societal enculturation in human development suggests that composing and reading are not solitary acts but are inherently social. This perspective departs from typical conceptions of composition in which an author struggles alone with the blank page (e.g., Murray, 1984) and of reading in which the sole concern is the reader's personal engagement with the text (e.g., Probst, 1988). Instead, both composition and reading practices are mediated by a range of interrelated cultural factors. In this sense, meaning is a function of work conducted among readers and texts under the gravity of teleological ends, rather than of isolated transactions between author/reader and text. The text becomes situated among a host of related tools through which its meaning potential may be realized: speech genres, personal and cultural narratives, cultural schemata, and so on, all of which contribute to

relationships among authors and readers that potentially enable similar expectations for texts (Nystrand, 1986). The text is thus the focal but not sole or necessarily primary tool through which meaning emerges for a reader.

The Codification of Texts

While composition and reading are generally understood as the writing and reading of verbal texts, in this study we analyze the production of and response to a graphic architectural text. We thus embrace the semiotic perspective that signs and texts are not restricted to language but are multimodal (Kress, 2000). We consider, then, an architectural drawing to be a text that is both composed and read. Just as is the case with the reading of written texts, the reading of an architectural text requires knowledge of how it is inscribed with meaningful codes, including those iconic, numeric, and verbal.

Some degree of fidelity between inscribed intentions and the realization of meaning on the part of a reader follows from shared expectations for textual codes (Nystrand, 1986). So, in spite of the highly individualized nature of the meaning-making process, many people come up with similar meanings for the same text. We explain this phenomenon through the construct of the transactional zone of meaning construction (Smagorinsky, 2001), in which authors and their various readers invoke the same textual conventions in their constructions of meaning for a text. Ideally both author and reader invoke similar codes to inform their construction of meaning from the configuration of signs depicted in a text, all based on their enculturation into communities of reading practice. In addition to whatever deciphering or decoding might be required to understand what a text might mean, readers bring to the experience a host of attributes and conditions that will affect how they engage with the codes by which it is inscribed. Readers thus

simultaneously decode texts and encode them through their instantiation of interpretive conventions, experiential images, and other conventional and personal knowledge.

Readers who lack enculturation to the textual codes will not have access to the meaning potential that texts are inscribed to suggest. The transactional zone thus has implications for educational settings, given that capital accrues to those who understand the codification of a text or have the authority to impose particular readings based on their consonance with or authority relative to textual codes. Reading in accordance with inscribed codes does not guarantee agreement between reader and text, but rather affords a similar understanding between inscription and encoding. A reader may also recognize how a text is inscribed with codes yet expect a different codification. When that reader has judgmental authority, as is typically the case when teachers read students' texts, a text may be judged to be insufficient or inappropriate based on the invocation of particular expectations, regardless of the author's intentions or goals for the text.

Tool Mediation in Composition and Reading

A tool hierarchy. For the purposes of this research, we identify three types of tools that may be employed in the production of a text. We should emphasize that this typology is heuristic rather than absolute, and that the classification of any tool is relational—that is, what is concrete to one person in one situation may be representational to another person in another situation (M. Cole, personal communication, February 20, 2004). The three types of tools germane to our analysis are concrete, representational, and schematic, defined as follows:

- Concrete tools are material in substance and are used directly in production, e.g., a pencil and paper for writing or drawing.

- <u>Representational tools</u>, like concrete tools, are material (assuming that spoken words are in a sense material). A representational tool, however, is symbolic; that is, it refers to something other than itself. A representation of this sort might be a book that includes models and plans from which something material might be constructed.

- <u>Schematic tools</u> are more abstract than concrete or representational tools. They serve as broad mental codifications of experience or knowledge. Not only are schematic tools not tangible, it is possible that one is not even aware of their mediating role in activity. A genre of activity, for instance, is not tangible and possibly can influence cognitive development in ways not recognized by participants. They are mediators that guide production in a broad sense, such as the Prairie or postmodern approaches to architectural design.

In some cases, the category of schematic tool may overlap with the category of setting. For instance, an architect could work within the setting of the Prairie school of architecture. The axioms of this community of practice could then serve as cultural schemata that mediate the production of architectural designs. Other types of schematic tools, such as images that we describe later, do not serve as settings. While such tools have cultural origins—that is, one's mental maps and narratives are appropriated from cultural practice—they serve as internal representations rather than contextual factors with which one stands in relation.

According to this typology, tools exist in various degrees of abstraction. For our research, the tools that we found most germane to our interests were those in the schematic category, particularly those we categorized as <u>cultural</u> (e.g., design conventions and what teacher Bill called "common sense") or <u>imagaic</u> (e.g., narratives,

mental maps, and what we termed participant Rick's vision of architectural design). That is, all students were required to produce their drawings with pencils and relied on the same models provided by the teacher, so these concrete and representational tools were generally not contested. The tensions that we found informative came in terms of cultural and imagaic tools that resulted in both consonant and dissonant conceptions of meaning and intention between Rick and Bill in Rick's production of his architectural plans.

Images as tools. Narrative has been recognized for its mediational potential as a cultural tool for both whole societies (Brockmeier, 2001) and for individuals within societies (Valsiner, 1998) in the formation of cultural and personal identities (Rymes, 2001). Narrative has been conceived broadly by Brockmeier (2001) and others to describe a text consisting of "spaces of meaning" that constitute an "'integrated whole'" making up a "narrative program" produced through "a discourse whose meanings are organized along one (or more) story lines, creating a narrative 'emplotment,' a synthesis of heterogeneous elements" comprised of "various textual modes or media" (p. 225; emphasis in original).

The juxtaposition of personal narratives with texts enables authors and readers to emplot one reading in dialogue with and in extension of others (Ricoeur, 1983), producing a configurational act that enables readers to bring together diverse texts into a complex whole. Different readings of the same text thus vary, not just from reader to reader but from reading to reading by the same reader, depending on how each reading is emplotted and configured within the reader's experience. In this conception a narrative can both represent a person's ongoing trajectory and in turn mediate the sense that a person makes of both past and immediate experiences, a process that Medway (2002) has

specifically found in architectural students' design processes. Narratives can also suggest identity paths through the anticipation that they create for personal directions and possibilities that may be realized through goal-directed action (Cook, 2004).

The Current Study

This study focuses on the composition and reading of a set of architectural plans in a high school Architectural Design class. Ackerman and Oates (1996) argue that an architectural text codifies social activity and can be read by those enculturated to understand its codes. Our investigation is designed to understand how a text of this sort is produced, inscribed, codified, and read within the context of a particular disciplinary culture and classroom, itself nested within a variety of other settings. We focus on the following questions:

1. In what ways were Rick's and Bill's constructions of meaning for Rick's architectural text both consonant and dissonant, particularly with respect to normative assumptions that guided text production, tensions between their goals for Rick's drawing, tensions between Rick's and Bill's senses of economy, and tensions between Rick's inscription and Bill's encoding relative to the textual codes? In what ways were these tensions negotiated and to what extent did these tensions produce new learning?

2. How did Rick's composition of architectural plans integrate, represent, and mediate his emerging identity and culturally-mediated life trajectory in this setting?

Ultimately we consider how understanding these issues can contribute to a better grasp of how educational settings affect students' potential to find school to be a critical site for the production of culturally valued texts and the subsequent actions they may

engender in relation to significant readers, and a critical site for the formation of satisfying identities. This purpose evolved from our initial goals in undertaking this investigation. Originally we had intended to study the cognitive processes of architectural design as a way to investigate the intellectual activity in what some (e.g., The New London Group, 1996) have called multiliteracies, i.e., the infinitely variable forms through which literacy is emerging in the new and growing economy. In our view multiliteracies have been justified more in political than cognitive terms (see, e.g., Cope & Kalantzis, 2000). We intended to study the situated cognition involved in the composition and reading of a set of house plans in the particular setting of a high school classroom.

As our analysis proceeded, we saw that this framework limited our understanding of the study's potential. As we worked through the data, we began to see that Rick's cognitive work was more than an assembly of processes. Rather, we began to see a larger project at work for him in his architectural design, that being the construction of a life trajectory in relation to a host of mediating forces such as his teacher's expectations, themselves grounded in the teacher's own position within settings that mediated his understanding of what a house design should include and resemble. We see the significance of this study, then, in studying these cognitive and social processes in relation to Rick's production of his house plans, and illustrating how one student's engagement in design work both represented and contributed to his emerging identity during the process of his apprenticeship into the field of architectural design. We further analyze how his inscription of his life narrative became problematic for his teacher's reading of his architectural text. This process of inscription and reading illustrates the

complex nature of composing and reading, particularly in relation to cultural and historical mediators, and raises questions about simplified notions of reading that guide much national policy and instruction (see, e.g., Allington, 2002).

Context of the Investigation

Data collection took place in a southwestern U. S. college town populated by about 95,000 people. The city's public school system served over 12,500 students, one-fourth of whom qualified for free or reduced lunch. The school system's student population was 81.4% European American, 6.6% Native American, 6% African American, 2.6% Asian American, and 1.7% Latino/a. The high school was a 2-year senior high enrolling about 1,800 students. Over 50% of graduates attended 4-year colleges, 26% attended 2-year colleges, and fewer than 5% entered technical schools or the armed services. Advanced Placement (AP) courses and testing were offered in 11 areas, and students annually scored above the state and national averages on the SAT and the ACT.

We next describe the study's participants, Rick and Bill, and the task that Bill provided to Rick and his classmates in his Architectural Design class.

Participants

Rick

Rick was a white male who stood well over 6 feet tall and kept his long blond hair tied back in a ponytail. He got about town on roller blades, a vehicle for which he and his friends shared a dedication. Rick had dropped out of a Vocational-Technical school (known locally and hereafter as the Vo-Tech school) during his senior year, only to re-enroll the following year at age 19 in his community high school's architectural design

class. Rick's most immediate plan following school was to rebuild a car with a friend and perhaps become, like his father, an auto mechanic. He was also considering the possibility of returning to the Vo-Tech school he had dropped out of previously.

Rick expressed a need to be different. Much of the design work he saw going on in his classes relied on norms and conventions that he wanted to break:

> I wanted to do something that just didn't look average. You know, you can drive through some of the nicer neighborhoods here, and there's the same basic shape to all the houses. And I just, I wanted to do something different inside, and if you look at [my house] plan . . . there are three rooms that are the shape of stop signs. There are three octagons in the house. And [my teacher and my girlfriend's father, an architect] didn't like that.

Though unique relative to the local conventions that governed life in his town in terms of his long hair, membership among rollerblading devotees, and beliefs about house design, Rick conformed to other practices and expectations. His long hair, while the exception among mainstream boys at the high school (in which the football coach was paid more than the principal), typified membership in both the small neo-Sixties counterculture of the college town and the blue collar workforce to which his father belonged. However, like most who consider themselves rebels, Rick was not a complete original but rather embraced values and practices that resisted those of the prevailing norm.

Though he considered his teacher Bill to be his "friend," Rick's approach to architectural design often caused conflict between the two:

He and I didn't agree on my house. I designed it and I said, you know, this is what I wanted to do. And he said, "No, this isn't, this is a little outrageous, this is going to be hard to draw the measurements in and everything. I'm just going to be eating Tums right and left, because you're going to drive me up the wall." I said, "Well, you know, this is how I want to do it." And, I let him, I gave way sometimes and then sometimes I wouldn't. A lot of times he would just come to my desk, sit down and just put his hands on his face. His face in his hands and just sit there. And he'd have to cool off for a minute, and then he'd look at it, and his eyes would just, they looked like they were almost going to bug out of his head, which is [inaudible] so bad. He just, he always wanted me to change it. He wanted it to be more efficient. I just wanted it to be different.

Bill's reading of Rick's text was referenced to the norms of the local housing market, which Rick willfully disregarded in certain respects. This invocation of different cultural understandings served as the primary tension we observed between Rick's inscription of meaning in his text and Bill's reading and assessment of it. This tension existed not simply between two individuals. Rather, their activity in competing systems allowed for the tension to be realized in their relationship over Rick's composition of a uniquely-angled architectural design in an academic setting governed by Bill's adherence to tract housing norms. These norms produced houses known by many as "McMansions," i.e., homes in developments in which the houses all share the same features, are the same size, are the same distance from the road, have the same rooflines, and often are larger than their lots can aesthetically accommodate. In such neighborhoods, the context

provided by the uniform characteristics of the surrounding houses strongly suggested

which features should be included in any individual home constructed in the vicinity.

Bill

Rick described Bill, his Drafting II teacher, as "one of the better high school

teachers." Bill said that he had "a blast" teaching. He appreciated the chance to see a side

of his students that other teachers in the school did not get to see: "I enjoy immensely

what I do. It's fun to get that student that no one else has success with and they just do

wonderful in your class." Bill enjoyed working with young men and women who, rather

than being among the college-bound or Advanced Placement students, were often told, he

reported, that they "aren't very smart."

A veteran teacher of eight years, Bill came to his discipline with experience from

his brothers' home construction company:

A lot of my background, other than what I received in college, was I

framed [houses] for three summers and that helped. . . . Also, the fact that

my brothers are builders. I'm around job sites all the time. I do a lot of

their drafting work to where if they have a kitchen and they want it

different type kitchen, I can redo a redraw for them. Which helps me keep

up on what architects are doing today.

Bill's experience also helped the students estimate the real costs of materializing their

plans, taking into consideration factors that they would often take for granted. He felt that

his emphasis on what he called common sense "open[ed] their eyes up a little bit and they

start[ed] cutting back" on what he saw as their overly elaborate house designs.

His guidance of students' designs was informed by his activity in his brothers' contracting business and his understanding of the constraints within which they had developed a profitable company that built and sold homes in a struggling state economy. As a consequence of the oil bust of the mid-1980s, the state's economy had become badly depressed, with many residents of the city relocating to other states in order to find work. During this period many people lost their homes. Housing and Urban Development (HUD) foreclosures had flooded the market with inexpensive homes, making the new home construction business difficult to sustain. Local architects and contractors, therefore, were quite sensitive of the need to produce marketable new homes in a city that had very recently experienced a deep economic recession. At the time of the oil bust, Rick had been a child and early adolescent and so had not understood its impact on virtually all facets of life in the region. As a result, the issues that confronted Bill and shaped his approach to the building and selling of houses were neither evident nor relevant to Rick in his design of a personal space for him to occupy at a point when the general economy and the home construction business had begun to rebound.

Task

Bill described the assignment that each student would work toward in Drafting II:

They are to design a house from 1,250 square feet to 1,800 square feet. There are restrictions, single story, must have two car garage, must have at least one full bath, does not have to have a formal dining, but must have a kitchenette, like a breakfast nook. Must have a minimum two bedrooms, 3/4 brick veneer.

He encouraged each student to enter his or her design in a state competition in which their drawings were read by architects and university architecture professors who evaluated their full set of house plans. Bill's assessment of the students' work explicitly anticipated the standards used by these judges.

Method

Data Collection

Observations were made by a research assistant who visited Bill's class each time it met from early February to early May, encompassing most of the duration of the course. Field notes from these observations helped to provide an account of the instructional context in which Rick produced his design.

Bill provided an extended interview that probed for the content, curriculum, and goals of the architectural design class.

Rick provided two protocols in which he revealed his composing process. One was a concurrent protocol (Ericsson & Simon, 1993) that Rick produced while working on his drawing. Because the classroom was too noisy and distracting for Rick to work with a tape recorder on in school, he provided his think-aloud in a series of episodes while drafting at home. He also produced a retrospective protocol (Greene & Higgins, 1994), i.e., an interview based on the series of drafts and final architectural plans he produced during the semester.

The data also included an audiotape of a feedback conference between Rick and Bill while Rick was working on his drawing.

Data Analysis

The field notes and interviews, along with data collected from other research at the school (O'Donnell-Allen & Smagorinsky, 1999; Smagorinsky, 1995, 1997; Smagorinsky & O'Donnell-Allen, 1998a, 1998b), served as the basis for describing the context of the investigation. The protocols and feedback session were transcribed and then collaboratively coded by the authors. The question of reliability through independent coding was thus addressed in that we discussed each coding decision until we agreed on how a unit of text should be coded.

The coding system embodied principles from our theoretical framework. We identified three general types of codes to help us understand Rick's situated composing process: setting that served as the social context in which Rick learned to use the tool, problem to be solved through and attendant to text production, and tool employed to solve goal-oriented problems. Not all of our coding led to insights with respect to our research questions. We next review those codes that enabled us to identify tensions between Rick's and Bill's attribution of meaning to Rick's architectural drawing. The full set of codes and their frequencies is listed in Table 1. We report these frequencies with the understanding that they are a sample of Rick's thinking that may or may not accurately represent the whole of his thinking during his semester-long process of composition. We infer, however, that they suggest centers of gravity for the situated cognition through which Rick produced his architectural plans.

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Problem: Economics

Tulviste (1991) has argued that people's frameworks for thinking develop in response to the types of problems an environment presents to solve. Through tool-mediated action used in problem-solving that helps achieve cultural goals, people are apprenticed into ways of thinking that are appropriate to addressing culture-specific needs. Coding the protocols for the kinds of problems Rick was attempting to solve, then, was central to our analysis.

Economics codes referred to decisions about the economy of either the budget or the spatial relations among housing elements that enabled a more efficient household. Our sense of economics comes from its roots in the Greek word oikonomia, meaning management or law (nemein/nomos) of household (oikos). Our notion of economics therefore relates to how architectural design takes into consideration both the prudent management of resources and the orderly, functional arrangement of a household's various parts. The economic codes that produced tensions between Rick and Bill were primarily concerned with Rick's arrangement of space, which Bill believed to be wasteful. An ill-conceived design, he believed, would increase heating and cooling costs, turn usable space into unnecessary space, and result in a house that was difficult to market.

Schematic Tools

Schematic tools serve as cultural schemata or scripts that mediate activity. We next describe two such tools that we found contributed to tensions between Rick's and Bill's reading of meaning into Rick's drawing, cultural mediators and images.

Cultural mediators. We identified two categories that we determined to be broad cultural mediators: what Bill called common sense, which we see as logic emerging

through cultural practice; and <u>design conventions</u> that Rick drew on or resisted in producing his plans.

<u>Image.</u> Schematic tools included three types of <u>image</u> based on Rick's personal experiences. Damasio (1999) equates an image with a mental image or mental pattern. We categorized such images <u>mental maps</u>.

We coded a second type of image as <u>narrative</u>; these were the stories that Rick produced to imagine how he would live and thus how the house should be designed. For coding purposes, we identified a narrative as any account that involved temporal change or action. Ultimately, these codes add up to the lustier notion of narrative described by Brockmeier (2001), but the individually coded narratives we identified were often quite brief.

A third type of image was what we called Rick's <u>vision</u> of what made up good design, particularly in relation to his emerging identity. His development of this vision relied on cultural knowledge acquired through relational activity in various settings.

<u>Example of Coded Text</u>

We next provide a sample from Rick's retrospective protocol to illustrate how we coded his transcripts:

> As far as the kitchen goes, I wanted a breakfast nook in the bar with
> another small round type of table, which is just an extension that goes all
> the way around. Just for an easy—half the time, if I go in my house and I
> want something to eat, I'm not going to fix something to eat and sit down
> at the table in the dining room, because that's just not me. And we've got
> new white carpet in our house, so we're not allowed to take it in the living

room. So, I'll just pick it up and just eat in the kitchen. We don't have a

bar, so I can't actually sit down. If I've been out rollerblading all day I

can't sit down, so I've got to stand there and eat. And so, you know, that

was something that played a part in it. I wanted something just so I could

sit there.

We bracketed this segment as a codable unit because all of Rick's remarks

concerned the same design decision: how to configure the breakfast nook in his kitchen.

The <u>setting</u> from which he drew his understanding of how to use these tools was

<u>informal</u>, drawing on his current <u>lifestyle</u>. We saw him addressing two <u>problems</u>, both

<u>economic</u>: <u>caring for comforts/needs</u> by creating a breakfast nook for informal dining and

directing a favorable <u>traffic flow</u> through his placement of the table. He relied on six

<u>schematic tools</u> to create this design. These included all three types of <u>image</u> that we

identified: a <u>mental map</u> of both his parents' house and the house he was designing, the

<u>narrative</u> of how he prepared himself a meal after rollerblading, and his <u>vision</u> of how he

wished to live within the confines of his own home. We also coded the <u>cultural</u> mediator

of the <u>design conventions</u> that suggested the placement of a breakfast nook and bar in the

kitchen. Finally, we coded the schemata provided by the <u>fields</u> of <u>architectural design</u> and

<u>interior design</u> to inform his design decisions.

<div align="center">Results</div>

We present the results as they relate to the research questions that drove our

analysis. The first research question concerns the ways in which meaning was inscribed

and encoded by the author and readers of the architectural text (see Figure 1 for Rick's

final design). Through our interpretation of the data, we identified a set of recurring tool-

mediated, goal-directed processes in Rick's production of the text in the cultural setting of Bill's classroom, itself an extension of the culture of the local housing market. These processes included the role of normative assumptions in Rick's apprenticeship into an approach to architectural design, tensions between goals of Rick and his evaluative readership, tensions between definitions of economics that informed different conceptions of house design, and tensions between Rick's inscription of meaning in the architectural text and Bill's encoding of meaning in his reading of this text. Rick's negotiation of these processes and tensions contributed to what we understood to be the larger project in which he was engaged, that being his ongoing development of an identity and life trajectory, the subject of our second research question.

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Inscription and Encoding of Meaning

Normative Assumptions Guiding Text Production

One code that emerged as central to our analysis was the <u>Tool: Schematic: Culture</u> tool of <u>common sense</u>. Bill and Rick used the term "common sense" on a number of occasions to describe Bill's assumptions about architectural design and home construction. Bill, for instance, said during his interview that the principles for architectural design are "a very common sense thing to me. . . . I think it's a knowledge base. If I could even go off of the subject here, I coach both football and soccer. Football is very common sense to me. Soccer, I've only coached for a few years, is very, very complex to me." Bill's recognition that one's common sense is a function of experience and local knowledge suggests an awareness of the learned nature of common sense.

In many ways Rick recognized and appreciated the reasoning behind Bill's common sense and took it up in his own work:

He took it a step further and explained, you know, okay, like in a bathroom, it's going to be much easier on your plumber if you put everything on one side. Put your sink and your toilet on one side. Then when you put your bathtub, you put it at the end. Put the spout at that one side. Don't put a sink way over here in one corner, and then you're just going to have plumbing going everywhere. You know, just teaching us some common sense things that you really wouldn't think of. (Rick, retrospective protocol)

In our reading of the data, we saw these references to common sense—or "practical" knowledge as they referred to it on occasion—as instances of what D'Andrade (1995; cf. Cole, 1996) calls <u>cultural schemata</u>; that is, "patterns of elementary schemas that make up the meaning system characteristic of any cultural group" (Cole, p. 126). These schemata often take on a normative value that is generalized as "common sense" that, one presumes, ought to inform any reasonable analysis of a situation. Cole argues that one's sense of what is reasonable is a cultural construct that is inherently ideological and, when unexamined and imposed on others, hegemonic.

To illustrate the ideological nature of Bill's notion of common sense, we offer the following excerpt from Rick's retrospective protocol in which he explained the virtual context in which their house designs should be developed. This context consisted of a site blueprint from a housing development in town—a representational tool in our analysis—in which Bill's brothers' construction company was building houses:

When we got to where we chose our site, he brought in an actual block or

additions, just a block away from [inaudible]. He brought in an actual

blueprint of it, and said, okay, everybody choose their space. Everybody

got to choose their space and they got to choose where they wanted to put

their house. . . . It just seemed the type of house that I can picture in an

area like that. You wouldn't put a beach house in Montana. (Rick,

retrospective protocol)

Rick's insight that the house site suggested a particular kind of housing design is consistent with our cultural analysis of his composition process. The siting of the house as part of a large housing development plot in a location occupied by McMansions suggested a particular set of design principles and appropriate intertext in which to situate the students' designs. With this site providing the residential context for their house designs, a particular kind of common sense governed Bill's thinking during his advisement and assessment of Rick and his classmates. The recurring social practices that normalized this notion of common sense came from a specialized community of practice, that of contractors in the suburban tract housing market. They also helped to establish a motive for the setting of Bill's class, one that suggested the goal of producing modular house designs, a value that Rick resisted throughout his design process.

Bill's notion of common sense governed decisions made within the house as well. During his interview Bill explained how he tried to get students to understand how common sense ideas should be incorporated into their designs:

Bill: What they have to think about and what I try to make them think

          about and the process I try to make them go through is what is easy

          and what is convenient.

Q: Uh huh.

Bill: And I don't mean easy as far as easy for them to draw. Easy for

          them to live in. When you walk in, make sure the light switch is on

          the door handle side.

Q: Yeah.

Bill: So you don't have to walk into a dark room.

Q: Uh huh.

Bill: Make sure a door opens a certain direction, therefore it doesn't

          open into someone coming down a hallway. (Bill, interview)

We imagine that such rules govern house design decisions in most societies that
have Western values, practices, and resources. In other settings—e.g., those in which
electricity is not available or affordable or in which interior walls and doors are not
feasible—a different kind of common sense would need to inform decision-making so as
to conform with prevailing social practices. These design conventions, however, are so
thoroughly ingrained in Bill's thinking, and so sensible to Rick and other students in the
context of the task on which they were working, that they appear to be common sense
decisions that are not open to question. Because of this consonance in terms of what is
sensible, those aspects of Rick's design that incorporated these values were easily read,
understood, and approved by Bill in his role as teacher.

A final set of institutionalized norms was provided by the local building code. In explaining his plot, Rick said,

> Right here you've got your sidewalk. A foot off the sidewalk in the grass,
> you do not own, from there out to the street, you do not own. The city owns
> that. Then you have to come back 25 feet. That way, everything is built.
> Your long, your farthest point out has to be 25 feet back. That's your
> building line. That runs straight down the block. Everybody's would line up
> their farthest point. Everybody's sticks out the same point, so you don't have
> one sunken way back and one sticking right up really close. That's according
> to building codes. (Rick, retrospective protocol)

Rick was thus apprenticed toward a particular set of norms and practices, characterized as practical or common sense knowledge, that were either presented from Bill's perspective based on his contracting experiences or embedded in local building codes. We have described this process in previous work (Smagorinsky & O'Donnell-Allen, 1998a, 1998b) as <u>channeling</u> activity according to either stated or implicit governing rules toward the motive that suggests appropriate activity in this setting. Within these accepted constraints Rick designed his drawing, encountering the tensions we outline next.

<u>Tensions between Goals</u>

In our analysis we attended to the goal-directed nature of human action. Ackerman and Oates (1996) find adherence to convention to be a necessary consideration when architects work with clients for the housing market: "We find it interesting to imagine either client or architect designing <u>against</u> such cultural determinants and

templates" (p. 108; emphasis in original). While accepting many of Bill's common sense views about architectural design, Rick found himself often at odds with the conventions Bill invoked for his house plans. One recurring tension we found in the data was that between Rick's goals for his drawing and the expectations of the adults who read and assessed his work. Rick's house design was intended to afford a particular way of living, including attention to his preference for odd angles and his need to have an open design to account for his feelings of claustrophobia. Bill, on the other hand, embodied the norms of the field of architecture and the subfield of southwestern, suburban, mass-market tract housing design.

Although just a set of drawings, Rick's architectural plans represented a particular reality for himself and his primary readers (Medway, 1996). Thus Rick's house design served as a text that Rick and Bill treated as real and worth contesting. We found evidence to support the existence of the tension between their goals for Rick's design in codes within the Problem: Design category, especially those pertaining to the assessment of the drawing from Bill and state design competition judges. These differences are evident through two codes from the Tool:Schematic:Culture: Image category, Rick's narratives and his vision of how he wanted to live.

In particular, the codes reveal that Rick's projection of the house design in relation to his lifestyle needs was quite different from Bill's sense of convention and market pragmatism. Bill emphasized what could realistically be built and sold in a community such as the one they lived in. His sense of housing norms and marketability was based on his knowledge of which house designs resulted in quick and thus profitable turnarounds on the market.

Rick, on the other hand, had a unique vision of himself and his lifestyle that caused him to resist certain norms invoked by Bill. He continually found himself at odds with the conventions governing the shapes of rooms emphasized by Bill and his girlfriend's architect father, who comprised the discipline of architectural design to Rick along with the more abstract presence of the state design competition judges. Rick worked against these conventions because he wanted to include unusual angles in his design. Rick's sense of what was and was not conventional was a construct available through our identification of the tools through which Rick composed his text.

One general shared goal for Bill and Rick was for Rick and other students to impress the judges at the state architectural design competition. Rick said,

I am only drawing it for one reason and that is to win the state

competition. . . . hopefully I am right in that they are looking for

something a little different from the rest, and if they have never seen

anything different from the rest, they are definitely going to see it now.

Because this house is definitely odd. There are three rooms that have the

exact same sized octagon-shaped walls. (Rick, think-aloud protocol)

As Rick explained here, his means of achieving state-wide recognition were unorthodox. His design ideas often brought him in conflict with Bill, disagreements that typically ended up in compromises; Rick said during his think-aloud protocol, "I had a tendency to, whenever the instructor told me you should try this, I would try it and not like it and change it to something totally different which I did like and he would, I guess, tolerate it."

Rick often revealed his preferences for his house's function through the schematic imagaic tool of <u>narratives</u> that illustrated how his lifestyle would be accommodated by his design decisions. During his retrospective protocol he described his design of the foyer:

Rick: The teacher wanted to put some coat closets in there, and I didn't. . . . . I couldn't think of a place to put it without taking away from the overall—he was talking about, okay, let's cut this wall down like this, and we'll make this a closet. The door will be right there. Well, at, really to me, that just wouldn't be right. To have that study, then, like that. It just doesn't look right.

Q: Wouldn't be symmetrical like that?

Rick: Yeah. It would, it would make it, the plan, easier. But yet not what I was shooting for. I was shooting for something just totally different. I wanted something nice and open, but at the same time I wanted some closed off areas. I used to have a—there was a door coming out here. And there was actually a patio, like a garden that you could go out in the morning and drink coffee or whatever, and it was, there was a four-foot brick wall going all the way around it. So that, you know, you had a little bit of privacy, but not too much. Which kind of fit in with the rest of the theme of—you know, your dining room, you've got a little bit of privacy, that wall there, that had no shade. But at the same time, you could still get, you could still see into the living room. (Rick, retrospective protocol)

Rick's design ideas did not meet Bill's cultural schema for a home entry, one in which a resident or visitor was immediately met by a coat closet upon entering the house for convenient uncloaking and storage. This feature did not, however, meet with Rick's need for openness and symmetry, as evidenced through his narrative of how he envisioned traversing and using this living space. Yet Bill composed a different reading for this foyer, one that envisioned discommoded visitors who had no place to hang their coats and hats upon entering the house. These different evocations produced different meanings for these two critical readers of Rick's architectural text.

Tensions between Definitions of Economics

Rick's sense of spatial organization both did and did not match Bill's sense of good design economics. To examine the degree of consonance between their notions of economics, we looked to statements coded in the Problem: Economics category and those in the Tools: Schematic: Culture category.

As an instructor of many students with diverse tastes, needs, and interests, Bill was accustomed to accommodating his own preferences for house design to those of his students:

> Let's say a kid is just kind of a gloomy person and wants a dark house. . . .
> If the kid disagrees with your suggestions and says, no, what I want is a
> dark house, is that something that the student can justify then and my next
> question would be why? And if they defend it—go. My main problem is
> making sure the inside of that house is functional, whether there's a lot of
> windows or not. (Bill, interview)

Bill yielded to students' preferences as long as the house was "functional," which we understood to mean functioning economically.

Rick did accept the wisdom of many of Bill's suggestions regarding efficiency. During his retrospective protocol he said:

> Like this room was angled off this way and there was a bathroom going across the top, and there was a big hall right here. And he'd say, you know, let's make this more practical. You know, you don't need a 7-foot wide hall. There's no sense in it. A hall is actually wasted space. So, I tried to keep the halls down to a minimum. (Rick, retrospective protocol)

As he did with many of Bill's commonsense guidelines, Rick accepted Bill's recommendation for efficient design as functional and efficient. In this regard Bill apprenticed Rick into norms for tract housing design that stressed efficient use of space, a value not shared in all home architecture approaches (e.g., the relatively opulent and capacious Victorian design style).

While accepting some principles of tract housing efficiency, Rick rejected others, particularly the rectilinearity of the overall design. Rick was critical of the boxy yet efficient designs he observed among his peers:

> I like to think about it rather than okay, I'll just put a bathroom over here, you know, basically taking modular pieces, you know, bedroom here, okay, I'll put a bathroom somewhere on near this. I'm going to put a kitchen over here. And you know, a lot of people basically drew it like that. They would draw the bathroom. They would draw the bedroom. Kind of put it in blocks. Whereas I was looking at the holistic picture of it, you know. Okay. I want

this to be different and I don't want any—no 90 degree walls, I want 45. I

wanted to do something different. (Rick, retrospective protocol)

These angles created a feeling of open space for Rick. During his retrospective

protocol Rick said, "I didn't want everything tight, compact. . . . A lot of the houses, and

even the houses that won state, looked tight and uncomfortable to me. . . I don't like

feeling cramped in. I am extremely claustrophobic and I don't, I wanted something large."

Yet an open design worked against the notion of efficiency that Bill hoped to impress on his

students. And in the context of the virtual neighborhood plot that Bill had provided for the

students, Rick's preference for inefficient angles and open spaces would violate the sense of

uniformity expected in such neighborhoods. During his interview Bill said, "Suppose I like

a Spanish look to a home, well I wouldn't want to put that in the middle of a Cape Cod

neighborhood." Similarly, he believed that a home with rooms angled at 45 degrees

facing the street would disrupt the style of the neighborhood he anticipated for the

students' houses and be difficult to market to people hoping to live in such an

environment.

Tensions between Writer's Inscription and Reader's Encoding

Our analysis revealed tensions between what Rick inscribed and what Bill

read. Ackerman and Oates (1996) describe a problem they found in professional

architects that anticipates the tension we observed between Rick and Bill well:

"their professional challenge was to read an audience and situation and to produce

a design concept that fits their agenda as well as that of their client" (p. 83).

Medway (1996) further finds that architects must consider how both the

architectural plans and the resulting building "will be perceived—or, in the

designers' language, 'read.' Their concern is, in other words, with meaning. . . .

Architecture . . . distinctively takes responsibility for the viewers' experience,

seeking to ensure that some satisfying interpretative interaction takes place" (p.

495). Rick and Bill attributed different meanings to Rick's design in critical areas.

To identify these tensions, we draw on evidence from various codes within the

Problem: Design category, from two tools—mental map and narrative—in the

Tool: Schematic: Image category, and from our interview with Bill regarding his

approach to teaching the class and his relationship with Rick.

Rick had little trouble reading his audience, given his close relationship

with Bill throughout the design process. The tension resulted from the kinds of

competing goals that we have described previously and Bill's reluctance to

recognize Rick's sense of style and notion of economy as legitimate in the context

of the task. Though sharing the setting of the classroom, Rick and Bill brought

different intertextual images, cultural practices, and motives for house design to

their joint activity in producing Rick's architectural text.

In many ways Rick and Bill worked collaboratively on aspects of Rick's design.

Rick's design became problematic for Bill when it departed from Bill's normative sense

of what constituted practical or common sense approaches to designing a home as a

commodity within the economy to which he had become enculturated, the post-recession

suburban mass housing market. Rick, however, had a different purpose for his design: to

embody and facilitate a specific and unique approach to living. In one sense, Rick's

composition might be read with reasonable proximity to his intentions by anyone

conversant with the codes of architectural design. Readers who have inhabited American

homes, even those with no experience in reading architectural plans, might have little difficulty in determining from Rick's drawing what is a hallway and what is a bedroom. Rick and knowledgeable readers of architectural plans would likely share the same transactional zone of meaning construction and could build very similar homes based on the same set of plans.

In another sense, Rick's inscription is potentially lost when the text is unmediated by his own account of his decision-making process. Medway (1996) argues that architects work on two levels of semiosis: "first, to create and to convey—through graphical, linguistic, and gestural representation—the spatial configuration of the virtual artifact, its material composition, and so on, and second, to represent the experience the building will induce, the meaning the play of the parts will have" (p. 496). Our research method provided access to Rick's inscription of meaning through his accounts of narratives and other schematic tools. These narratives suggested the sorts of experiences his design might induce and how those experiences might contribute to a more meaningful life for him within the home. Texts are in one sense static in that they are fixed upon the page. Yet Rick's protocols, particularly his narratives, revealed that he inscribed his house design with abundant movement and activity that he anticipated within the house, movement of a particular kind and motivated by a particular ideology. These evocations accumulated to comprise the sort of configurational act described by Ricoeur (1983) in which a meaningful whole emerges from a set of emplotted narratives.

Bill's encoding of meaning during his reading, however, was quite different: The octagonal rooms suggested narratives in which consumers house hunting in this neighborhood, and thus seeking a tract home, walked through the door, saw the odd

angles, and quickly walked out in search of a home more accommodating to their furniture layout, pathways for movement, and the life afforded by such a configuration. Just as importantly, the narrative extended to include the contractor stuck with an unmarketable home in an economy recently troubled by low housing starts and scant new home purchases.

<p align="center">Identity and Life Trajectory</p>

Rick's data from his experiences designing a house within the confines of Bill's classroom and the state architectural competition, and the communities of practice in which these settings were situated, suggest that his production of architectural plans helped to integrate, configure, represent, and mediate his emerging identity and culturally-mediated life trajectory. Our understanding of identity comes from Brockmeier's (2001) view that individual identity is emplotted within a larger cultural identity; that is, one's identity is not insular as conceived by Rousseau (1762/1979) and expounded in much subsequent Romantic educational discourse, but is mediated by society's teleological goals and the cultural practices that they suggest. Brockmeier argues that this larger cultural identity helps to define "some of the fundamental trajectories of our existence" (p. 216). In this sense the production of cultural texts reflects and contributes to one's ongoing identity development within the settings and through the mediational tools provided by culture.

Brockmeier (2001) argues that one's process of identity development is "a cultural process through which individuals symbolically and semiotically integrate themselves into a social order of meaning. . . . it is the individuals who 'suture themselves into the story'" (p. 221). People's identities are bound in broader cultural narratives,

"creating a narrative 'emplotment,' a synthesis of heterogeneous elements" (p. 225). Though acting in relation to cultural narratives, individuals have agency to resist, reconstruct, reinterpret, and otherwise re-envision the trajectory suggested by existing cultural goals and practices.

Rick was both a product of his culture and one who resisted it. He accepted and acted within the constraints suggested by institutionalized rules such as building codes and "common sense" rules that governed building construction in this geographical area. In doing so he accepted the trajectory of producing marketable suburban tract housing that was encouraged by his teacher and followed by his classmates. At the same time, Rick's vision of how he wanted to live, reinforced by narrative images of how a house might facilitate his particular living and spatial needs, created critical points of departure from this trajectory, particularly with regard to his angular design: "Everybody's got this real basic shape. You see a lot of squares. And I wanted to stray away from that."

John-Steiner and Meehan (2000) have argued that creativity follows from new juxtapositions of existing ideas. Rick brought new juxtapositions (e.g., a different sense of geometry) to Bill's class and the field, yet they were discouraged because they departed from Bill's common sense with regard to profitable architectural design and house construction. We see Rick and Bill working collaboratively, if occasionally at odds, to produce an architectural design that juxtaposed existing conventions in new ways. Rick did not invent the octagon but did, at least in this setting, introduce this shape as a new configuration. As such, it was a creative decision consistent with his belief in himself as a unique individual. Outside the confines of Bill's class, this creative design met with greater approval as indicated by Rick's fourth-place finish in the state

architectural design competition. We were not able to follow Rick beyond the semester of his participation in the study because career moves created logistical separation. We see, however, his design of this cultural text as both an embodiment of his vision of himself and as an opportunity to develop that vision.

Discussion

Nystrand (1986), in discussing the qualities of good writing, describes the reciprocity that enables readers and writers to invoke roughly similar conventions and, if not arrive at the same meaning, at least have shared expectations regarding their efforts to understand one another (cf. Schutz, 1967). "In terms of communication," he writes, "writers and readers are not so much right or wrong in their expression and interpretations as they are in or out of tune with each other (pp. 73-74; emphasis in original).

In this study we have looked at the reciprocal relationship between Rick and his primary reader, Bill, in relation to Rick's production of an architectural drawing. This largely iconic text included both words and numbers in supplementary roles to communicate to Rick's evaluative readerships and ideally a construction company what sort of structure would be built on a given suburban housing tract. For the purpose of the research, Rick additionally produced a verbal text in the form of his various protocols and his discussions with Bill, a complementary use of speech that likely contributed to his thinking about how to produce the plans (Smagorinsky, 1998). The communicative clarity of such a text is critical if the drawings are to be acted upon with fidelity by a construction company; a poorly rendered text might lead to high-stakes consequences that misconstrue authorial intent.

Yet, as Nystrand (1986) argues, clarity is not a property solely of authorship but a quality that emerges through the joint activity of composers and readers. Bill had taught his students how to follow particular conventions that made their architectural texts comprehensible to trained readers such as himself and the judges in the state design competition. Further, he taught a particular value system that privileged rectilinear designs that fit within the context of housing developments such as those constructed by his brothers. Houses were not so much individual constructions as texts that met codes for both city planners and consumers.

Rick's skillful orchestration of ideas into the representational text of his house plan met most of these expectations well, in spite of Bill's disapproval of Rick's preference for octagonal rooms. Rick's high finish in the state competition suggests that Bill apprenticed him effectively into the expectations of this community of practitioners and readers and that Rick's design was in tune with his readers' ability to understand and potentially act on his design. Through this cultural mediation, we would argue, a new concept emerged for Rick, one that integrated his own design needs with the norms that Bill impressed on him to produce a set of plans that was unique relative to the conventions of local practice. Rick's final design represented the emplotment or construction of new, alternative versions of the world based on astute intercontextual links to competing activity systems. Rick's acquisition of new ways of reading the world in relation to his apprenticeship experience suggest that reading and reading development entail more than comprehension of texts. Equally critically, they involve new ways of interpreting and constructing the world through the appropriation, adaptation, transformation, and construction of cultural tools.

Rick's protocols reveal that narrative images informed his design and inscribed a personal trajectory into his plans, both his architectural plans and his plans for how to conduct his life. This production intention provided the chief impediment to understanding between Rick and Bill; Rick worked within the conventions expected by Bill in executing his drawing but worked with different conventions in inscribing his design with a particular lifestyle. His inscription of meaning was thus not evident to Bill, at least not sufficiently to keep Bill from ingesting large doses of Tums in frustration over his inability to persuade Rick that his ideas were not marketable.

It is important to situate these immediate relationships within their larger social context. In previous work (Smagorinsky, 2001; Smagorinsky & O'Donnell-Allen, 1998a, 2000) we have argued that the reading relationship is more than what takes place between reader and text; rather, it takes place among readers and texts. Readers and texts are parts of larger communities of discourse and practice that suggest appropriate ways to encode texts with meaning. These communities provide the larger harmonic structure and performative genres that enable different players to be in tune with one another. Both Rick and Bill invoked these conventions in the production and interpretation of the house designs. To provide for this broader view, we have looked at this collaborative social act as not just a tug-of-war between Rick and Bill over what constituted a suitable house design but an illustration of the ways in which composition and reading include a host of complex social acts.

We have discussed at length the personal level at which this mediation takes place, i.e., the production of architectural plans that provided the mutual text that provided the basis for the relationship between Rick and Bill. This relationship was

further mediated by the norms of the school and Bill's instantiation of community norms within his classroom, which allowed for a relaxed, conversational atmosphere in this non-core course. Furthermore, Rick was able to produce this text in this setting because, after dropping out of school at one point, he returned with a more engaged approach to his studies. Our prior work at this school has found that students' engagement with class assignments is part of their broader engagement with school as a whole; that disengagement from the institution of school can make it difficult for any teacher to promote engagement with a discipline or its practices (Smagorinsky, 2001; Smagorinsky & O'Donnell-Allen, 1998a, 2000). By choosing to return to school, Rick positioned himself to become a productive member of Bill's class and successful student in its disciplinary expectations, a mental framework that might not have been available to him when he dropped out of school a year earlier.

We have also described the mediational context of the community's standards for home architecture, one that discouraged the kinds of design favored by Rick. Rick's preferences and needs worked against him in this setting because his design ideas were not easily marketable to the typical consumer. While he produced a text that met Bill's expectations for competence in architectural drawing, the actual design represented in the drawing was likely too unusual and therefore too speculative to be actually constructed in this community, unless undertaken by Rick himself for his own living quarters.

We see Rick's composition of this plan as mediated by the broader disciplinary culture of architectural design and the many fields with which an architect must be conversant in order to design a functional house in a specific setting: electricity, plumbing, materials science, geography, climate, and other schematic tools described in

Table 1. This broader disciplinary culture appeared more flexible than the immediate expectations conveyed by Bill, as evidenced by Rick's high finish in the state architectural design competition. The field of architecture's expectations for Rick's text appeared to accommodate a wider range of design features than were available to Bill's brothers' firm, which had to respond to market preferences in a region that only recently had begun to recover from a severe economic recession that had crippled the housing market.

Our study contributes to reading research by broadening the notions of textuality generally considered by reading researchers with its focus on the difficulties of understanding an author's inscription of meaning in a text. While much current reading theory emphasizes the reader's constructive role in the generation of a meaningful response, our research has featured a textual production and interpretation in which a reader's fidelity to the author's intentions is critical to the successful completion of the author/reader relationship: a house that meets its designer's specifications. Being in tune with these design expectations is among the reader's primary responsibilities if one is to stay in business for long in a competitive business environment.

Our study further focuses on the complexity of inscription that requires attention in relationships such as this one. Ricoeur's (1983) notion of emplotment informs our understanding of the ways in which texts are inscribed with meaning by authors and encoded with meaning by readers. Drawing on their storehouse of prior narratives from personal experience, readers and authors emplot each new textual experience, i.e., situate them in dialogue with and in extension of other texts and the cultural values that they represent (Wertsch, 1999). Engagement with texts thus enables readers to bring together

diverse texts into a complex whole. Rick's architectural plans were emplotted differently by Rick and Bill. Rick saw the house as a text that embodied his narrative knowledge of how he wanted to live; Bill emplotted it in his narrative of how houses sell in a mass housing market, particularly one in the process of recovering from a depressed economy. Understanding these varying acts of configuration in readers' and authors' determinations of textual meaning appears to us to be a central point when considering the readability of texts that mediate the transactions of authors and readers and their communicative exchanges.

Rick's composition and reading and Bill's reading of this architectural text represent their participation in activity that drives certain ways of producing, attending to, and interpreting texts for the purpose of constructing new texts and meanings. The cultural theory of reading upon which we draw allows for the notion that Rick inscribed and encoded his house plans with his narrative life trajectory. The tensions arose when his readers did not have, or did not recognize as significant, knowledge of Rick's goals for his life and house. This disjuncture appears to be a common problem in teaching reading and writing, or any discipline in a Deweyan sense: Those who are invested with evaluative authority are not often aware of the goals of students in producing school work (e.g., Dewey, 1916). Bill's ultimate acceptance of Rick's design, after much negotiation, granted Rick a certain level of accomplishment as an architect, a status further confirmed by Rick's high finish in the state competition. Without the negotiation that took place between Rick and Bill, where Rick accepted much of Bill's common sense advice and Bill yielded to Rick's design preferences, this house would likely not have taken shape the way it did either in form or in meaning. Through the

tensions involved in the acts of composing a text in this classroom setting, both Rick and

Bill engaged in expanding the concept of what was acceptable in the discipline and what

could be read as competent in the setting of this classroom.

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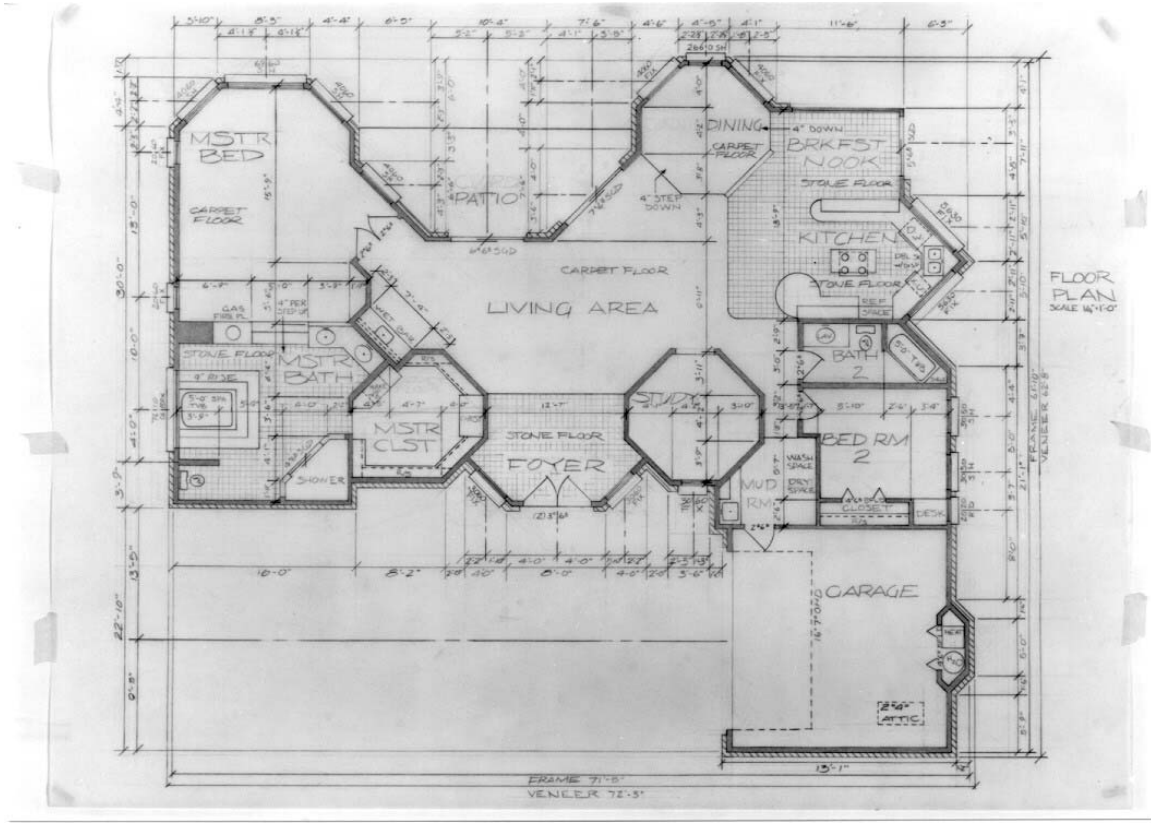
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Table 1: Codes and Frequencies

SETTING	Total
SETTING:FORMAL	
Setting:Formal:Teachers	45
Setting:Formal:Architects	10
SETTING:INFORMAL	
Setting:Informal:Lifestyle	6
Setting:Informal:Peers	11
PROBLEM	
PROBLEM:DESIGN	
Problem:Design:Aesthetics	17
Problem:Design:Appearance	15
Problem:Design:Assessment	15
Problem:Design:Assignment	40
Problem:Design:Perspective	5
Problem:Design:Revision	20
Problem:Design:Time	13
PROBLEM:ECONOMICS	
Problem:Economics:Care for Comfort/Needs	15
Problem:Economics:Home in residential context	5
Problem:Economics:Functioning of house	14
Problem:Economics:Heating/air	6
Problem:Economics:Proximity/logistics	7
Problem:Economics:Scale	14
Problem:Economics:Spatial efficiency	11
Problem:Economics:Structural soundness	7
Problem:Economics:Traffic flow	5
TOOL	
TOOL:CONCRETE	
Tool:Concrete:Assignment	6
Tool:Concrete:Drafting tools	13
Tool:Concrete:Drawing techniques	9
TOOL:REPRESENTATIONAL	
Tool:Representational:Drafting plans	38
Tool:Representational:Representational Sources	4
TOOL:SCHEMATIC	
TOOL:SCHEMATIC:FIELD	
Tool:Schematic:Architectural Design	53
Tool:Schematic:Climate/Geography	5
Tool:Schematic:Construction Science	25
Tool:Schematic:Economics	5
Tool:Schematic:Electrical Engineering	4
Tool:Schematic:Geometry	20
Tool:Schematic:Graphic Design/Drawing	32
Tool:Schematic:Interior Design	13
Tool:Schematic:Landscape Architecture	6
Tool:Schematic:Mathematics	10
TOOL:SCHEMATIC: CULTURE	
Tool:Schematic:Common sense	11
Tool:Schematic:Design conventions	84
TOOL:SCHEMATIC: IMAGE	
Tool:Schematic:Mental Map	34
Tool:Schematic:Narrative	30
Tool:Schematic:Vision	27

Figure 1

Authors' Note