Writing by Design, Design by Writing

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> "Now if it were asked: 'Do you have the thought before finding the expression?' what would one have to reply? And what, to the question: 'What did the thought consist in, as it existed before its expression?'" –Ludwig Wittgenstein, Philosophical Investigations, sec 335. "Architects often finish their sentences with a sketch." –Peter Medway

Writing centers, writing across the curriculum initiatives and writing studies programs are some of the most visible manifestations of a veritable academic boom market in improving students' writing skills. Though there is no reason to think architecture students are better writers than their peers in other departments, this heightened level of concern hasn't yet blossomed in architectural education which has long held the role of the written word in design thinking at a certain reserve.[1] Educator and author Dalibor Vesely expresses this outlook perfectly when he worries aloud about "an uneasy feeling that too much is written today about architecture, which should after all communicate visually rather than through words."[2] The standard architectural curriculum devotes substantial resources in the early years to developing students' visual literacy and graphic communication skills so that they can begin to think through design ideas in the powerful medium of the visual. This effort is usually so successful that visual expression—the diagram, the sketch, the model, plan, section, elevation, rendering—eventually marginalizes verbal and written language in design thinking. Thus, clear, powerful and effective writing is something acquired elsewhere, if at all. The rise of computer-generated modeling has made it even easier to overlook future architects' poor writing skills by substituting increasingly seductive images for sentences. This dismissive attitude toward the importance of writing in design thinking is unfortunate, not only in light of Wittgenstein's elegantly-stated question which highlights the importance for the mind to muster all available resources as it bootstraps increasingly sophisticated thoughts on available means, but is made doubly unfortunate by recent discoveries that writing still constitutes the

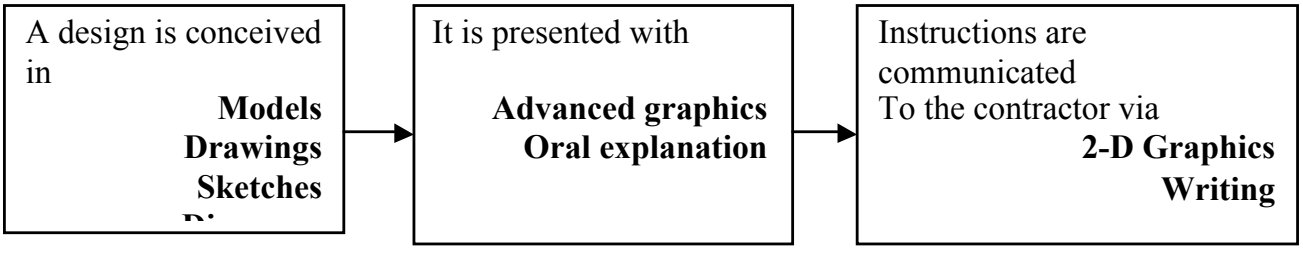

Figure 1: Writing's role in the linear model

most powerful medium through which a community of inquirers understands and advances itself. As architects struggle to find the most penetrating expression of their design thinking, the question then becomes, not how to develop visual workarounds for stunted writing skills, but rather how best to re-conceive the role of writing to make a consistent contribution to the design process.

TWO MODELS

The ascendency of the visual leads to the tacit acceptance and, ultimately, reinforcement of a model for design thinking which relegates verbal expression (in both written and oral modes) to a subordinate role aiding communication of a design concept already conceived purely visually. The visual determines the design; the verbal merely helps explain. This mistakenly forces writing into a linear process at odds with the recursive nature of design.

Wittgenstein's question, however, reminds that things are rarely that simple. A linear conception of writing's role precludes full exploitation of its value to the design process.

This conception is inadequate in terms of traditional architectural practices and made even more so in light of recent developments in the construction market. In communicating design intent, drawings traditionally explain quantity and location while text—in the form of specifications, RFIs and assorted instructions—is a much superior mode for communicating the desired quality. Even as con-

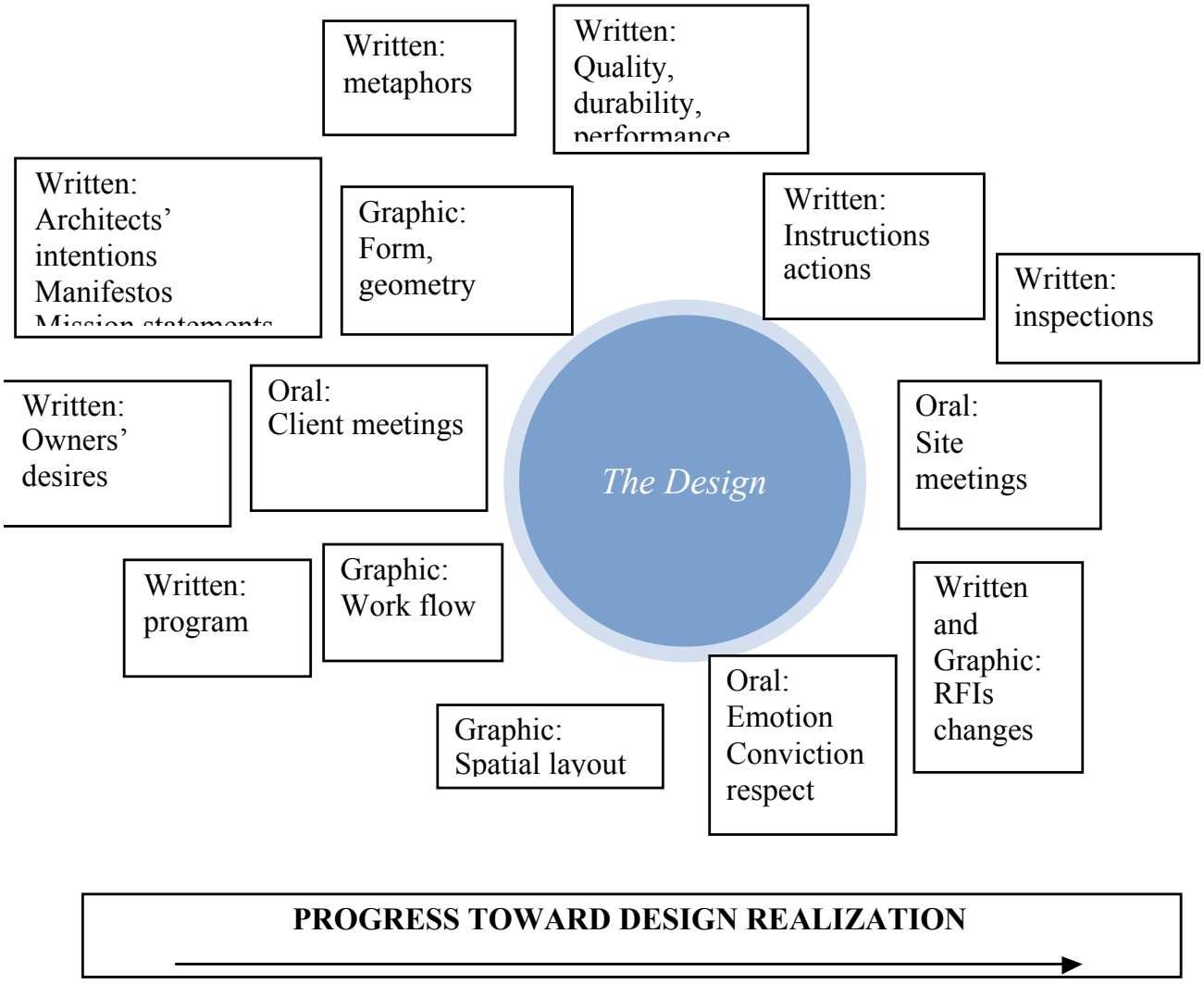

Figure 2: Writing's role in the central model

temporary computer-aided graphic representation has achieved new levels of sophistication, the traditional "point and grunt" model of design communication is exactly the one that has atrophied under sustained attack by both owners and the construction industry by failing to adapt to the exigencies of today's more collaborative context. Today, building production entails participation by owners, contractors, construction managers, and consultants from the outset of the design process, which places a premium on architects' ability to communicate with a variety of people in a variety of situations.

In the context of this more collaborative design environment, a dismissive attitude toward writing becomes increasingly untenable. These days, the value of one's investments may fade, but emails are forever. Litigation—and preventing it—is heavily dependent on high-quality writing. Nor is effective writing only business-oriented. No one achieves stature within the profession without at least one monograph explicating the firm's design oeuvre. Press and criticism are as important as ever. The ideal of the architect as the Master Form Maker or Master Builder is disappearing into the model of the architect as Master of Information. This new role is not a demotion but it does signify a shift in how the world is pressing architects to think about design. In this emerging model, the design itself is usefully understood as existing either suspended at the center of a web of diverse information, or else is actually the sum of all the information that comes to bear on it. Architectural form emerges out of and becomes part of the sea of relevant information which includes the written word.

By finishing "sentences with a sketch," Peter Medway, an applied linguist fascinated by the ways architects express themselves through language, would seem to confirm the inadequacy of words to design thinking, and hence the relevance of the linear model, but this was not his meaning. What Medway and his colleagues discovered in their close observations of architects at work is not the *inadequacy* of language to design thinking, but rather the *fluidity* with which architects must move between the graphic, oral, and written modes when developing and communicating design intent. After observing architects at work in a number of different situations, he offers, "We are surprised and impressed by the linguistic virtuosity called for in the job."[3] Yes, sentences do end in sketches, but by the same token, sketches are illuminated by sentences. The design moves forward iteratively as the designer gropes toward a desired future state of affairs that only comes to be fleshed out as the mind inculcates information. If design is allowed to be about more than the creation of form, then a fluid model, which places design at the center of an activity informed by graphic, oral, and written modes is more adequate.

ASSESSING WRITING DEFICIENCIES

Fluidity between the graphic, oral and written modes will develop organically on its own if not artificially suppressed. This is the point at which a potential concern arises in architectural education: students receive ample opportunity to hone their graphic and oral skills in studio via desk crits, juries, and informal discussion with peers, but what of their writing? Do future architects graduate with the writing skills they will ultimately need to move fluidly between the visual, oral and written worlds?

Presently, most architecture school curricula woefully lack the means to help students negotiate those worlds. Norman Weinstein's recent essay in the *Chronicle of Higher Education* echoes this concern. His terse opinion after attending a midterm studio review at Yale: "one black hole in architecture education demands transformation: Too many architecture students can't write."[4] If writing remains an unaddressed weakness, then graphic and oral modes will be forced to compensate, putting into motion a vicious circle in which weak writing skills never make the jump to fluidity required for design to thrive. In our school's external assessments over the past several years—alumni and employer surveys, student assessment by guest critics, exit interviews and the like—writing emerged as the one potential trouble spot in the overall effort to educate students to problem-solve creatively and communicate effectively. This prompted the creation of an internal task force charged with determining the state of our students' writing skills.

With the enlisted expertise of a writing specialist from the English Department, the task force was able to clearly isolate and describe the writing problems characteristic of far too many School of Architecture students. Unfortunately, it found that little overall improvement occurs between second and 5th year for most students. In some cases,

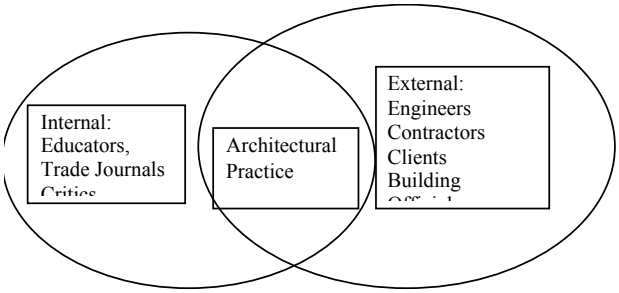

Figure 3: Architecture's two discourse communities

writing skills actually become sloppier, not crisper, due to a dearth of clearly expected writing during the middle years of the program. The overall impression was that students arrive out of high school able to write, or they do not, and in both cases the university's composition classes may help polish the skills of some but do not substantially improve the writing of the majority.

To manage the unexpectedly broad scope of the problem uncovered, the task force delineated three major areas for improvement:

First: Theme and Structure

Most students never explicitly learn how to set up an argument in a paper properly so that the writing substantiates the premise as it develops. As a result, writing rambles off subject, paragraphs do not follow one another in any logical order, and conclusions are weak to non-existent.

Second: Mechanics and Grammar

Common and predictable grammar problems can be corrected. Proper usage requires relatively little skill or creativity. Achieving an acceptable level of grammar from students requires strict reinforcement at some point. Eventually they must learn to 'hear' their own words as they write them, correct awkward or improper usage, and edit their own text.

Third: Architecture Vocabulary

To communicate effectively in practice, architects must have a mastery of a lexicon common to the description of buildings. While it would be hard to imagine that our students are not exposed to a complete architecture vocabulary, too often they have not assimilated the terms; therefore, they cannot access them when called upon to do so. Lacking this critical vocabulary, student writing tended to be needlessly cumbersome. More importantly, when called upon to analyze building features (pilasters, for example) students, lacking the necessary descriptive language, were sometimes unable to recognize the features' existence.[5]

Armed with a more specific understanding of the scope and nature of students' writing difficulties put the task force in a position to draw on recent work in writing studies to provide fresh theoretical and practical grounding for the role of written expression in the architecture curriculum.

DISCOURSE COMMUNITIES

To reconsider the role of the written word in architectural design, the useful concept of the *discourse community* adopted from the emerging fields of Writing Across the Curriculum (WAC) / Writing in the Disciplines (WID) can help identify both its problem areas as well as its importance. The idea of a discourse community has certain distinct advantages over other sociological constructs, such as Pierre Bourdieu's notion of the field (which groups everyone with a vested interest in a given cultural product into dominants and subordinates), because it helps explain the mechanism by which a given discourse becomes both the mode of communication as well as the means with which the community constitutes itself. It has the further advantage of allowing the identification of the same group with different communities by virtue of its genres, subject matter knowledge and rhetorical knowledge. In architecture, two distinctly different kinds of writing reflecting two distinctly different discourse communities can be discerned: one kind addresses an internal discourse with which architects communicate with educators, critics and theorists of various stripes in the ongoing effort to improve and redefine the discipline; the other aids an external discourse with such "outsiders" as clients, engineers, contractors, building officials and the public. Both communities are indispensible. Successful architectural practitioners must be fluent in both kinds of discourse.

NEW WAYS OF LOOKING AT WRITING

Current approaches to writing theory explain why

poor writing skills cannot be simply 'fixed' by dispatching architecture students over to the English Department for grammar lessons. Effective writing is inextricably bound to the social, disciplinary and material work writing *does*. Michael Carter, drawing on recent work in Writing in the Disciplines emphasizes the importance of recognizing that "writing in the disciplines is founded on an integrative relationship between writing and knowing."[6] Attention is given to procedural, or process, knowledge rather than declarative, or conceptual, knowledge— that is, WID sees disciplines as "active ways of knowing" rather than "as repositories and delivery systems for relatively static content knowledge,"[7] as exemplified earlier in the linear model. The third element of the relationship in disciplinary systems is doing. Doing is the concrete activity that helps connect writing and knowing. In this way, the recursive nature of the relationships is maintained. Carter gives an example of the lab experiment as a way of showing the connections: The students participate in an experiment, which helps them learn about the lab as a means of reasoning and empirical reasoning. Writing the lab report, however, takes the doing and makes it knowing by replicating the scientific method through the convention of writing the sections of the lab report: introduction, methods, results, conclusion. In fact, writing, Carter claims, "may be understood as a metadoing: particular kinds of writing are ways of doing that instantiate particular kinds of doing by giving shape to particular ways of knowing in the disciplines."[8] Carter's model is equally applicable for the architecture context: to explain the relationship between design as doing and design as knowing, writing provides a metadiscoursal means of understanding the two and in this way helps constitute a discourse community.

WRITING AS SOCIALLY SITUATED PRACTICE-DISCOURSE COMMUNITIES

Writing is an ineluctably social practice. Patricia Bizzell argued that writing is not limited to an individual, cognitive activity, but developed in social context in discourse communities.[9] Drawing on the notion of *speech community* from sociolinguistics,[10] scholars in writing studies (such as Bizzell) started using the term *discourse community* to indicate that individuals have shared expectations which are embodied in discourse conventions. John Swales articulated the defining characteristics of a discourse community as possessing:

- a broadly agreed set of common public goals.
- mechanisms of intercommunication among its members.
- participatory mechanisms used primarily to provide information and feedback.
- one or more genres used in the communicative furtherance of its aims
- some specific lexis [in addition to owning genres].
- a threshold level of members with a suitable degree of relevant content and discoursal expertise.[11]

The notion of discourse community has been criticized, in part, on the grounds that it has not been operationalized empirically. Ann Beaufort has addressed these concerns through case studies and has defined a discourse community as follows:

> A discourse community is a dynamic social entity within which a set of distinctive, yet changeable, writing practices occur in relation to other modes of communication as a result of the community's shared values and goals, the material conditions for text production, and the influence of individual community member's idiosyncratic purposes and skills as writers.[12]

As such the discourse community simultaneously constitutes and is constituted by its members. Discourse communities are organized around writing practices, so they can comprise a single institution or an aggregate of institutions.[13] In her recent work, Beaufort develops a conceptual model for writing instruction based on her discourse community work. The model illustrated in figure 4 below represents the domains of knowledge that expert writers use.

Beaufort writes:

> What writing expertise is ultimately concerned with is becoming engaged in a particular community of writers who dialogue across texts, argue, and build on each other's work. Discourse communities exhibit a particular network of communicative channels, oral and written, whose interplay affects the purposes and meanings of written texts produced within the community. Based on a set of shared goals and values and certain material/physical conditions, discourse communities share establish norms for genres that may be unique to the community or shared with overlapping communities and roles and tasks for writers are appropriated within this activity system.[14]

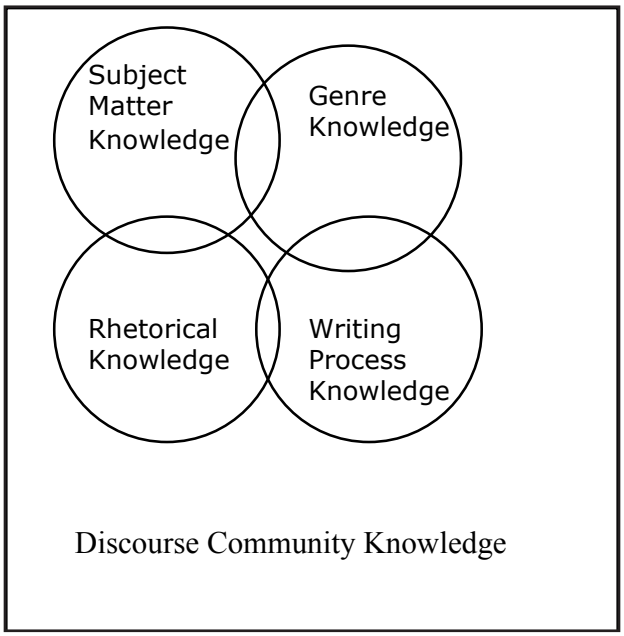

Figure 4: Beaufort's Conceptual Model: Expert Writers Draw on Five Knowledge Domains

Having discussed the overarching domain—the discourse community—it remains to discuss the four overlapping domains to show how this model can provide a heuristic for thinking about incorporating writing into architectural schooling. The work of Peter Medway reinforces its applicability for architectural education.

SUBJECT MATTER KNOWLEDGE

Foucault's definition of discourse, "a language practice that both represents and constitutes the epistemic realities of a professional activity"[15] provides a theoretical framework for understanding the role of such subject matter as knowledge of architecture history, construction technology, and contractual relationships in building a community. Medway, picking up on Foucault's approach, explores the importance of writing in the design process for students and discusses the qualities of writing that go with design; that is, how the verbal form of symbolic activity interacts with the nonverbal activity of drawing. The importance of understanding the design process and related activities are essential to understanding the relationship between writing and design in studio courses. Medway characterizes writing in the design process as future oriented, oriented to material production, shaping action, fragmentary and multimodal, and with a relationship to spoken language. Analyzing a case study of a fifth year undergraduate architectural student's design thesis led Medway to see in the process the student move into 'architectural thinking' through a trajectory that includes alternations of drawing and writing that result in writing functioning as a design tool.[16] In doing so, he demonstrates that subject matter knowledge is so fundamental that students can never fully compensate for a spotty architecture vocabulary with, say, formal virtuosity.

RHETORICAL KNOWLEDGE

The rhetorical knowledge sphere of Beaufort's model indicates that the writer must know how to address the audience and the purpose of a particular text. In addition, "The rhetorical moment is also affected by the social context—material conditions, timing, social relationship, etc. within the discourse community."[17] Medway claims that design is rhetorical in nature and, thus, schools of architecture teach students how to argue. This argumentative education is not only learned through the oral elements of crits or reviews, but in the process of design itself, "Buildings that lack a 'proposition' or idea and that disregard the essential Aristotelian practical attention to situation (ethos and pathos) are ineffective (as is criticism that evades these issues)."[18] He also sees broader implications for understanding the role of rhetoric in architecture: Argumentation is not just limited to disciplines that focus on the verbal; argumentation in architecture schooling is socially situated enabling students to make rational and reasonable decisions as their designs progress. Our students' inability to adequately theme and structure their arguments indicates a poor grasp of just this sort of knowledge that will ultimately weaken the propositional content of their designs if left uncorrected.

GENRE KNOWLEDGE

An especially important domain of knowledge in Beaufort's conceptual model is genre knowledge. Architecture's two discourse communities require two main genres. Anis Bawarshi defined genres as " typified rhetorical strategies communicants use to recognize, organize and act in all kinds of situations literary and nonliterary."[19] As such, genres become important sites at which members of a discourse community participate. Genres, traditionally known as 'types' of texts, become important for writers

when motivated by the community: "Genres are discursive sites that coordinate the acquisition and production of motives by maintaining specific relations between scene, act, agent, agency, and purpose. And when writers begin to write in different genres, they participate within these different sets of relations, relations that motivate them consciously or unconsciously, to invent both their texts and themselves"[20] In addition to motivation, social cohesion is created by individuals sharing within genres.[21]

Inexperience with genre knowledge helps explain the difference in understanding between novice and established architects despite apparent similarities in technical knowledge. These differences show even between beginning and advanced students in the design studio. Vijay Bhatia summarizes the view of genre theory on the characteristics of genres in addition to the definitions already discussed: They are highly structured not only in the shape they take but the lexico-grammatical resources they apply. Established members of the community have greater understanding of the forms and ability to exploit the genres than do new members or such outsiders as engineers or contractors. Genres of disciplines and professions have integrity of their own "which is often identified with reference to a combination of textual, discursive and contextual features."[22] As such, genres are socially situated, conventionalized forms that are created and maintained by experienced members of a community and must be learned by its novices.

The unique institution of the architect's sketchbook is a case in point. Medway studied architecture students' sketchbooks to determine their function as a genre. The function of the sketchbooks varied from non-work related uses to recording and preserving observations, as well as aids to thinking, learning and preparing for actions. Never limited to purely sketching, sketchbooks exemplify the need for fluidity between the verbal and visual, even for what is ostensibly an audience of one. While presumably not having an external audience, these notebooks did, according to Medway, participate in social action, a criterion of a genre. Though the status of sketchbooks as a genre was determined to be fuzzy, fuzziness is part of the nature of genres as they vary within and across disciplines, change over time, and are used by members of communities for various purposes. Genre knowledge is what allows architects to know how to write effectively for their different discourse communities. The phenomenon of "Archispeak" or "Archibabble" occurs when architects fail to appreciate the boundaries of these two communities.

WRITING PROCESS KNOWLEDGE

Procedural knowledge that helps the writer move through the writing task is writing process knowledge. This is where students' poor writing mechanics and grammar take their toll and is traditionally considered the purview of freshman composition. As noted earlier, attention to these processes is important for effective communication and students must learn to attend to their own editing processes. Writing process knowledge is also affected by the material and social context in which the writing task takes place. For example, when composing a field report, an architect must have knowledge of the process by which observations become instructions—the architect arrives at the site with a concept in mind of the desired outcome (the quality of the building); then compares observed progress with the conception (note-taking on the observations) reconciling observations with preconceptions; and finally explains through writing the thought processes engaged in to arrive at decisions. The process of note-taking, reconciling those notes, and then writing the final report illustrates the indispensability of an understanding of the writing process to the realization of the design.

IMPLICATIONS FOR WRITING AND ARCHITECTURE EDUCATION

The theoretical approaches provided by WID and WAC help explain why freshman composition has limited effectiveness for those who would seem to be its biggest beneficiaries. It does almost nothing to address both writing subject knowledge and genre knowledge, concerns itself with architects' rhetorical knowledge in the broadest terms, and addresses only writing process knowledge directly. Clearly, dispatching students in need "back to the English Department" is an inefficient approach at best and most likely a defeatist strategy. Drawing on Carter's work in helping faculty understand the role of writing in their disciplines by linking doing with writing and knowing, and using Beaufort's conceptual model as a heuristic for understanding the domains to which we must attend when writing within a community, architecture educators are now in a

better position to integrate program learning outcomes with genre, rhetorical, design subject matter, and writing process knowledge to create programs that facilitate students' achieving real fluidity between the semiotic modes of activity in which they participate in place of the halting movement too many now experience. Fluid movement between the graphic, oral and written modes is how doing becomes knowing and knowing becomes doing. Consequently, students are equipped to enter and further their various discourse communities. Medway's research reinforces this approach and gives us a place to start. The analysis of the state of our students' writing provided by the task force combined with the enhanced understanding of writing provided by writing theory has energized our School of Architecture faculty to find new ways to integrate writing into studio assignments throughout the curriculum. Though the results are still out, one thing is clear: To make real headway with the problem of student writing, the responsibility will have to come back home to the architecture schools, but at least they will not have to go it alone if they draw on the new resources and more sophisticated understanding of current writing theory and praxis.

ENDNOTES

1. This being said, a few programs do integrate writing into the design disciplines and into the design studios. Here is what the writing task force was able to find:
- At Oregon State, graphic design students are required to take a writing intensive seminar called Contemporary Issues in Design. An interesting aspect of the 4000 level class: it draws parallels between the writing process and the design process; students are asked to turn an 8-10 page paper into a visual piece.
- In the Department of Design, Housing, and Apparel at University of Minnesota and
- At Oklahoma State University, in the Design, Housing, Merchandising area, faculty have teamed with English departments to add more writing assignments to their courses. At Minnesota, the department of landscape architecture teamed up with the Center for Writing to test the value of adding writing assignments in the design studio as a means to improve students' skills in observation, idea-making and communication. An interesting note: at the University of Minnesota, landscape architecture students are ***required*** to take a technical writing course ***in addition to*** public speaking and advanced composition courses.
- Writing Across the Curriculum (WAC) initiatives are to be found in architecture at Virginia Tech and Ball State University. The latter is the longest-running of these programs, having been in continuous operation since the early 1990's. The idea to integrate writing into the design studios started with Robert Fisher, then Dean of the College of Architecture and Planning. In a nutshell, his philosophy was, "great ideas can change the world only if others understand them. Thus, learning to communicate design ideas is essential to success in the applied design professions." The interdisciplinary program was introduced into the second through fourth year studios as an aid to "invention, exploration and articulation of design ideas."

All of the programs we investigated had two things in common. First, they were paired with and/or co-taught by English departments and Writing Centers. Second, their emphasis was on "writing to enhance the design process" rather than to enhance job prospects after graduation.

2. Dalibor Veseley. *Architecture in the Age of Divided Representation.* Cambridge MA: MIT Press, 2004, 1.

3. Peter Medway. "Rhetoric and Architecture." In *Learning to Argue In Higher Education*. Sally Mitchell and Richard Andrews, (Eds.) Portsmouth, NH; Boynton/Cook Heinneman. 2000. 26-39.

4. Norman Weinstein. "Artful Writing" March 7, 2008. *Chronicle of Higher Education*.

5. In an analysis of writing problems with the term papers among students in a large, second year survey course, the following points emerged:
- 57% were under the 5-page requirement
- 50% had no clear thesis
- 57% were not able to incorporate the reading
- 100% used unclear language/incorrect grammar
- 50% had difficulty with sentence structure
- 43% had spelling errors
- 71% included paragraphs which did not have their own topic sentence
- 43% included paragraphs unrelated to thesis
- 36% lacked analysis of the architecture
- 50% conclusions typically involved the student's opinion of the building or had an 'emotional plea'
- 29% simply restated the thesis in the conclusion

Things had improved little to none by the time students reached upper division courses. A review of essays written by students in a fifth year management course by a member of the English
Department found that the biggest problems exhibited were:
- The essays were frequently not deductive where deductive reasoning was called for: they lacked an initial main point followed by supporting details.
- Nonexistent thesis (what is the paper about?) revealed a lack in clarity of thinking and lack of analysis.
- Insufficient attention to transitions and flow (cause/effect, the given/new-how one sentence ends should be at the beginning of the next) caused many arguments to simply fail to follow a premise.
- Awkward grammar and sentence structure marred most papers.

6. Michael Carter, "Ways of Knowing, Doing and Writing in the Disciplines." in *College Composition and Communication*, 58:3, 2007, 386.

7. Carter, 387.

8. Carter, 389.

9. Patricia Bizzell, "Cognition, Convention, and Certainty: What we need to know about writing," in *PRE/TEXT* 3:3, 1982, 213-243.

10. See Dell Hymes, *Foundations in Sociolinguistics: An ethnographic approach*. Philadelphia: University of Pennsylvania Press, 1974, for a full treatment of the concept of sociolinguistics.

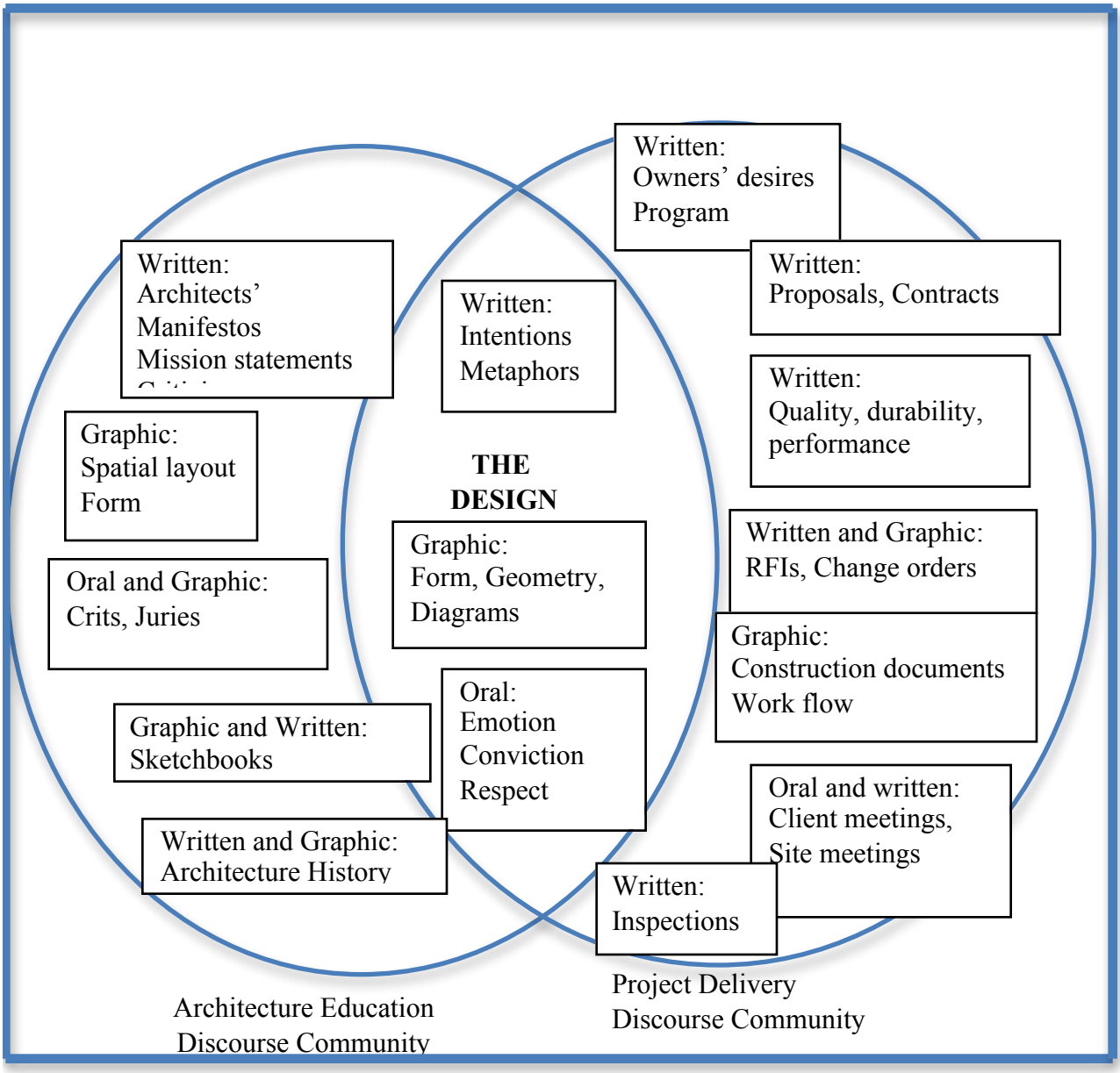

Figure 5: The Design Process overlain on the concept of Discourse Communities

11. John Swales, *Genre Analysis: English in Academic and Research Settings*. Cambridge: Cambridge University Press, 1990, 24-27.
12. Anne Beaufort, "Operationalizing the Concept of Discourse Community: A Case Study of One Insitutional Site of Composing," *Research in the Teaching of English*, 31: 4, 1997, 522.
13. Beaufort, 1997, 522.
14. Ann Beaufort, *College Writing and Beyond: A New Framework for University Writing Instruction*. Logan, UT: Utah State University Press. 2007. 18-19.
15. Peter Medway, "Writing and Design in Architectural Education." In *Transitions: Writing in Academic and Workplace Settings*. Patrick Dias and Anthony Pare (Eds.) Cresskill, New Jersey: Hampton Press, pp. 89-128. 2000, 123.
16. Medway, "Writing and Design in Architectural Education," 117.
17. Beaufort, 2007, 20.
18. Medway, "Rhetoric and Architecture," 36.
19. Anis Bawarshi, *Genre and the Invention of the Writer*. Logan, UT: Utah State University Press. 2003, 17.
20. Bawarshi, 17.
21. Peter Medway, Fuzzy Genres and Community Identities: The Case of Architecture Students' Sketchbooks, In *The Rhetoric and Ideology of Genre: Strategies for Stability and Change*. Richard Coe, Lorelei Lingard, and Tatiana Teslenko, (Eds.) Cresskill, NJ: Hampton Press, 2002, 123-153.