Language in Design explores the collaborative communication elements present in any design problem. Those collaborative elements exist not only within the end deliverable, but also within the documents and the interactions connected to that deliverable.

The success of the final design depends on the quality of those interactions, the clarity of those documents, and on an understanding of the theories and frameworks behind the development of what is seen, and what lies behind the scenes. By combining theory, practice, and reflection in every phase of the work, students develop and optimize rich strategies for invention and composition as they work toward final visual/verbal solutions.

What are the... Languages in Design?

The Language of the Outsider
Collective Memory Talk
Problem Statements
Feedback Loops

The Languages of Expertise
Visual Designer
Verbal Designer
HCII Designer
Behavioral Expertise
Marketing
Photographer
Printer
Paper Representative
Postal Experts
Tech Support

The Language of Interplay
Echoes
Contradictions
Redefinitions
(Hagan, 2002/2004)

The Language of Process
Contracts, Letters, Email
Project Calendars
Iterative Development
Grievance Resolution Methods
Division of Labor Reports
Time sheets

Language in Design gives graduate and undergraduate designer/writer teams the opportunity to study the verbal, textual, and visual/verbal communication skills needed to produce useful design solutions. These languages include:

The language of the outsider – client knowledge that designers use to aid invention,

The language of process – a record of contracts, letters, meetings, and emails,

The language of expertise – competing expert languages in collaborative situations,

The language of Interplay (Hagan, 2004) – inventional and compositional heuristics that help designers address client problems. Interplay is useful for clients who want to present a perspective that is at odds with established thinking.

We begin with the language of the outsider. Students read about problematic designer/client interaction (Fleming, 1996). Additionally, they present their own client experience. In the discussion that follows, they identify both the problems, and the value-added, the client brings to the table. Afterwards, students construct arguments concerning their new understanding about clients. In that way, writing becomes a tool for thinking, as well as a tool for communicating those thoughts to others.

In order to lessen the potential problems that client interaction can bring, we also look at a language of process. Students learn to write basic contracts and business letters, set up meetings, and maintain email contact. This paper trail results in a larger document, which incorporates that record in order to make a stronger argument for the design solution.

Languages of expertise also produce sources of conflict. Students read about conflict (Folger, Poole, & Stutman, 1993), consider their own experiences, and discuss ways that expert language, in collaborative situations, contributes to conflict. More importantly, they learn strategies to help resolve conflict situations (Folger et al., 1993).

Writing assignments continue to reinforce an ability to think as well as communicate. We focus on the need to make reasonable claims, supply proofs for those claims, develop overall arrangement strategies, and address stylistic concerns. Student knowledge of these areas of invention, arrangement, and style becomes even more important as they begin to edit each other's work.

While the first half of the course focuses on *preparation* for client interaction, the second half allows students to put what they have learned into practice. Students work with the client, testing out these language frameworks, and honing their communication skills in a very concrete way.

Susan Hagan | Carnegie Mellon University | Pittsburgh, PA 15219 | May 15th | 2005

In order to help students realize their goals, the class seeks out clients chosen because their communication problems merit the kind of tight visual/verbal collaboration that Interplay offers. Again, what these clients know, and wish to communicate, goes against established thinking. Some, such as The Islamic Center of Pittsburgh, struggle with unfair stereotypes. Others, such as The Pittsburgh Regional Alliance, struggle with the perception that the city they promote is as rusty as it's ever been.

Creating the type of visual/verbal collaboration, which will be helpful to these clients, is not easy because students usually have a visual or verbal expertise rather than a visual/verbal expertise. In this class, students learn each element offers constraints and opportunities that, in collaboration, maximize communicative effects.

Effectiveness is judged, based on the students' contribution to class discussions, their written work, and their ability to engage in a fully collaborative process. A collaborative process includes talking to clients in order to get the information needed, dealing with conflicts in order to keep the project going, and finally, applying theory, practice, and reflection to both written and designed artifacts in order to produce a successful outcome.

The Language of the Outsider

As David Fleming (1996) found in his case study of a student design project, working with a client can result in a failure to communicate. Each side seems to speak a foreign language. The client speaks in seemingly time-wasting tangents. The student, on the other hand, seems unable to question, moving too quickly toward final outcomes. Unfortunately, at the end of the day, students find themselves having to regroup when clients resist their early efforts.

In class, we discuss this negative outcome, as well as students' positive and negative experiences. Students then work toward identifying what elements might have contributed to either outcome. However, I also stress the importance of the client. Clients are the keepers of an organization's collective memory, a memory that can lead to inventive and useful design solutions. By stressing this issue, students learn that client knowledge also serves design interests. To this end, when a client states, as one client did in Fleming's study:

[s]ometimes elderly people don't mix well with um third graders who want to walk on the furniture rather than around the furniture (laughter) and we're really here, you know for everyone, and that's what our challenge is and that's what makes us a community center...

that client has just contributed a collective memory insight that should not be dismissed. That kind of statement can translate into communication that is visual and verbal, engaging and useful, true to the client's history, and to what the organization knows about itself. Listening to that statement, and asking more questions about it, is not a waste of time.

To help students value that interaction, we look at Alan Radley's (1990) essay concerning how artifacts are transformed from ordinary to special purposes. This essay is important because client collective memory often leads to the possibility of transforming the ordinary to special purposes. Not only can artifacts be transformed, they can be used to produce visual evidence for ideas that go against established thinking. Consider how one student uses an artifact for special purposes in a public service announcement. Five stills are shown here – sadly without sound. The first is to the left.

what gives   power?

Susan Hagan | Carnegie Mellon University | Pittsburgh, PA 15219 | May 15th | 2005

what gives a woman power?

compassion · calf muscles
strength · silken hair
is it her understanding · or her unblemished skin?

or her designer suit?
compassion · calf muscles
strength · silken hair
understanding · unblemished skin
patience · perfect figure
determination

compassion
strength
understanding
patience
determination

skill and creativity of the designer
~~is what~~ (concision) makes a

In this case, hijab, the putting on of modesty, is evidence of a powerful character trait, such as understanding, that the audience knows it should admire. This scarf was able to be transformed from ordinary to special purposes (Radley, 1990), because a student took the time to understand that hijab, in the guise of a scarf, is a symbol of power for American Muslim women, rather than a symbol of subjugation. Without that image, the idea of power, and powerful women, likely stays closer to established thinking – the designer suit reverts to back to images from Ralph Lauren and Calvin Klein.

Finally, these discussions lead to written arguments about client/designer interactions. When students hand in the assignment, they receive three types of feedback. First, I look for reasonable claims, supported by evidence that backs up those claims. I note each claim that is not supported by evidence, and each time the evidence presented does not support that particular claim. Second, I look at the structure of the overall argument, in order to see if that structure strengthens the presentation of the claims and proofs. Third, I look for concision, (no words or phrases that cause the reader to "trip" over the text); I look for coherence, (related ideas that live together); and I look for cohesion; (ease of identifying how later sentences refer back to earlier sentences). I not only show where mistakes are made, in the early iterations, I correct them, and communicate to the student the category of error found. **An example of category feedback can be seen below.** I found that by communicating the category of error, and allowing the students to become editors in the next writing assignment, most of my sixteen students only needed small corrections, such as comma placement, by the semester's end.

The Language of Process

Students also write basic contracts and client letters. In writing contracts, they learn how to communicate constraints. For example, students explicitly state that the client is responsible for final proof reading. In writing client letters, students learn to present themselves as friendly, knowledgeable, and eager to start working with the client.

The process book, which includes examples of these contracts and letters, does not present a history of making, it presents an argument for the design solution. In developing that argument, the process book arranges the following elements:

An executive report stating the problem and presenting reasons for the solution,
Final project,
Research and usability testing,
Iterative development,
Project calendars,
Time sheets with a division of labor report,
The contract and follow-up letters.

The Languages of Expertise

Experts collaborating on a project can run into problems for a number of reasons. Reasons include the fact that experts use different terms of art. These terms become so common for each group that experts are barely aware of them. Other conflicts develop for other reasons. Folger, Poole, & Stutman (1993) have identified issues that contribute to conflict. Students consider how these issues, as well as expert language, have influenced their own conflict situations.

Students work in discussion groups in which one person writes about a conflict situation that resulted in a negative outcome, while another writes about a conflict situation that resulted in a positive outcome. The third person, acts as editor, looking for claims and proofs, arrangement strategies, and the four style issues. I found that these students, working together, produced excellent papers with little need for further revision.

References and Course Readings

Arnheim, R. (1974). *Art and visual perception: A psychology of the creative eye* (Rev. ed.). Berkeley: University of California Press.

Carter, R. (2002). *Typographic design: Form and communication*. New Jersey: John Wiley & Sons.

Fleming, David. (1996). *The Rhetoric of Design: Argument, Story, Picture, and Talk in a Student Design Project*, Carnegie Mellon University.

Flower, L. & Hayes, J. R. (1984). Images, plans, and prose. *Written Communication, 1*(1), 120-160.

Folger, J. P., Poole, M. S. & Stutman, R. K. (1993). *Working through conflict: Strategies for relationships, groups, and organizations*, New York: Harper Collins College Publishers.

Hagan, Susan. (2002). "Using 'Visual/Verbal Interplay' To Tap Into Collective Memory and Shared Understanding" *Design and Emotion Conference Proceedings*.

Hagan, Susan M. (2004). *Visual/Verbal Meaning Collaboration: A Framework for the Study of Communication Design,* Carnegie Mellon University.

Heller, Steven. (1996)."Big Ideas that Built America," *Eye*, Vol. 6, Fall.

Hoffman, I. (2001). *The need for a written web-site contract*. Retrieved September 2004 from <ahref = http://www.sitepoint.com/article/written-website-contract>

Hollis, Richard. (1997) "Multiple Meanings," *Eye*, Vol. 24, Spring.

Lupton, Ellen, and Miller, J. Abbott. (1996). "Counting Sheep," *Design Writing Research, Writing on Graphic Design*, Princeton Architectural Press, NY.

Mitchell, W. J. T. (1994). *Picture theory : Essays on verbal and visual representation*. Chicago: University of Chicago Press.

Olson, D. R. (1994). *The world on paper: The conceptual and cognitive implications of writing and reading*. New York: Cambridge University Press.

Radley, A. (1990). Artefacts, memory and a sense of the past. In D. Middleton & D. Edwards (Eds.), *Collective remembering: Inquiries in social construction* (pp. 46-59). Newbury Park, CA: Sage Publications.

Schwemer-Scheddin, Yvonne. (1995) Josef Muller-Brockmann, *Eye*, Vol. 19, Winter.

Williams, J. (1994). *Style: Ten lessons in grace and clarity*. New York: HarperCollins.

Young, R. E. et al. (1970). *Rhetoric: Discovery and Change*. San Diego: Harcourt, Brace, Jovanovitch.

The Language of Interplay

With all of the reading and writing they've been doing, you'd think that words were sufficient to communicate meaning, and that visual elements were merely the icing on the cake, provided for those who like icing. But students also learn why visual elements, in collaboration with words, address problems that words alone cannot address as effectively.

The earlier example of hijab was not only important because the object was transfomed for special purposes, it was important because verbal and visual elements offer options and direction that improve arguments. Direction is defined here as the communication method less likely to encourage multiple interpretations. Direction is a property of *images* in the following way. Unlike verbal scenic descriptions, which allow individuals to imagine different scenes based on the clues provided, images provide direct views for unpredictable audiences (Hagan 2004). On the other hand, direction is a property of *text* in the following way. Text has a syntax that produces statements, questions, and demands that images simply cannot explicitly provide (Olson, 1994).

To the individual, a scenic description might seem very direct. However, it might not match the designer's intent in important ways. Similarly, to the individual, image interpretations might also seem very direct. However, those interpretations also might not match the designer's intent in important ways. The visual studies expert, W. J. T. Mitchell states, "the real question to ask when confronted with these kinds of image/text relations is not 'what is the difference (or similarity) between the words and the images? but 'What difference do the differences (and similarities) make?" (sic.) (1994, p. 91). Here is one answer. When the designer must communicate directly and deeply (Arnheim, 1974), concisely and explicitly, the use of directed verbal and visual elements becomes critical.

But how does the student, trained in either writing or visual design, decide what will be communicated with text and what will be communicated visually? Students in this class use a three-part framework developed by the instructor, in which they begin with a problem that can be summarized as "they think it's 'x,' but we know it's 'y.'" They then develop small stories based on metaphor. These stories allow them to tease apart what will be said verbally, and what will be said visually. It is important to note that these stories result in *visual/verbal* metaphor – not a visual metaphor. The presence, and importance of the text, is never undermined. The metaphor "hijab is powerful character" could not have been developed without a clear sense of this collaborative interaction.

Conclusion

Working with languages in design leads to a better understanding of the importance of a fully collaborative design space, revealing some of the issues that will be at stake in a professional situation. This project helps students learn how to optimize design solutions within the context of the client's history, knowledge of collective memory issues, and view of the problem. The class also helps students learn more about presentation/feedback loops with the client, with the audience, and with other experts.

As I work with students in this class, I notice that by the end of the semester they are able to articulate their abilities and interests, in a more concise and thoughtful way than was possible at the beginning of the semester. They understand that conflict is not good or evil, but simply a fact of life that must be addressed. They also see the value visual *and* verbal communication elements bring to the table, so that they are no longer visual designers, but collaborative communicators, better prepared to take on the task of a client problem in the future.