

A COURSE IN COMMUNICATION SKILLS

For the Corporate Environment of the 1990s

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The engineering curriculum traditionally acknowledges the importance of written and oral communication skills to the success of its graduates. Oral communication skills most frequently are interpreted to mean speaking to groups. In many companies, however, interpersonal interaction assumes greater importance in a graduate's success than the rare group presentation.

Having recognized this importance, companies have begun training engineers in interpersonal communication skills and social styles. With training, engineers are able to recognize that many personal work and communication styles differ from their own. They learn to value and respect these differences and learn how to best interact with people who use these other styles.

At Colorado State University (CSU), we now include interpersonal communication skills in our one-credit, senior chemical engineering course on oral and written communication (see Table 1). Human behavior and time management topics provide the core material for practicing oral and written communication. The course gives students an insight into the differences that exist among people and even within one person as he or she ages. The goal is to balance the effect of science education and its assumption that there is only one right answer. This assumption, actually a belief system, often overflows into interpersonal relationships. In this course, we show that interpersonal interactions are diverse, as people are, and that success on the job often will depend upon recognizing and adjusting to that fact.^[1]

COURSE CONTENT

Initially, students are introduced to the concept of paradigms—*i.e.*, multiple ways of modeling or perceiving reality. A person's behavior, and ultimately their time management, results from their chosen paradigm. Paradigms are unique to cultures as well as to professions. Each person has

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a unique set of paradigms. The book *The 7 Habits of Highly Effective People*, by Stephen R. Covey, is used as a training tool. It helps students to identify their own paradigms and to recognize those "Aha!" paradigm-shifting experiences. Imagine the behavior shift that results when a person first understands that disease is caused by germs rather than by spirits. We manage ourselves and others most effectively from the "inside-out," namely by understanding the paradigms by which we all live.^[2]

Covey offers several examples of paradigms that control time management. Examples include being spouse-centered, money-centered, work-centered, pleasure-centered, possession-centered, or principle-centered. Interestingly, some students disagree with Covey's claim that the principle-centered paradigm is superior; this is not a curriculum concern, however. The students must make formal oral presentations on each book chapter, but are free to disagree. By being open and accepting of varying student perspectives, the professor models the very philosophy he or she seeks to teach—that is, the value of different viewpoints. Because of this openness, students are comfortable, learn, and become fluent in Covey's approach to time management.

The course also introduces students to the Social Style Profile used by both Hewlett Packard and Dow Chemical Company in their interpersonal training courses.^[3] This approach is discussed as one model of human behavior in which "control versus emote" and "ask versus tell" are the axes for defining social style. The model's resulting quadrants are labeled as analytical, driver, expressive, and amiable. Students learn to recognize 1) their own primary social

style, 2) the strengths of others, and 3) how modifications to their social style increase effectiveness when dealing with others who have different styles. As an example, when interacting with “drivers,” one should use bullets in written communication, keep to the point, and state the bottom line first. The driver needs freedom to take risks, wants control, and will need others to listen. When interacting with “analyticals,” one should include the details, cover all bases, remove risk whenever possible, take time, be exceedingly prepared, know the facts, and be reassuring.

Students inevitably feel uncomfortable with being catego-

rized and plotted as a data point on the social-style map. A need to be viewed as a more complex being opens them up to exploration of other paradigms of human interaction leading to the Myers-Briggs Type Indicator (MBTI) scale of modeling personal behavioral tendencies. The MBTI scale is not formally administered to the students, however; the categories are discussed as another paradigm that helps people understand themselves and others. A guest speaker from the counseling center presents the MBTI material.

The course also uses Carol S. Pearson’s text and tapes titled *The Hero Within: Six Archetypes We Live By*, which is based on Jungian psychology. Here the students learn of a paradigm that views humans as fluid and growing, focusing on the archetypes of Innocent, Orphan, Martyr, Warrior, Wanderer, and Magician. There are low and high levels for each archetype, and according to the theory, we spend our lives spiraling through them. For example, a low-level martyr is “other-centered” and expects to be pitied or rewarded for self sacrifice, while the high-level martyr expects no such reward and sacrifices on the basis of personal principles. The Pearson resources help the students to learn how to help a coworker through a low-level stage that may be destructive to a work team. Another example includes a worker caught in low-level Orphan, who acts victimized and needs to be nurtured and reassured so that he or she can become proactive about life. Then, there is the low-level warrior, caught in “win-lose,” who needs to be reassured that when others win, individual worth is not diminished.

A self-administered test at the end of Pearson’s book helps students find their own distribution among the archetypes. At times, they are completely surprised when they realize their self-view and behavior are not aligned. The text reviews the strengths and weaknesses of each archetype and gives exercises for achieving higher levels of each stage.

At this point, the course circles back to Covey’s text and draws comparisons between his different paradigms and the archetypes. Examples include drawing comparisons between Warrior and “enemy-centered,” or between Martyr and “other-centered.” The ultimate level of performance in Pearson’s paradigm is that of Magician, which is directly analogous to Covey’s “win-win or don’t play” paradigm. The students recognize that the competition in engineering leads many of them to “win-lose,” or even to “lose-lose,” mentalities. Both are very destructive in the workplace.

The professor pairs the students and assigns an oral presentation on one of the archetypes. Those students who do not like reading psychology books can check Carol Person’s tapes out of the chemical engineering office for up to a week to prepare for their oral presentations. Each presentation should explain the archetype clearly and contrast it with the stages of personal development given by Covey. The other students grade the presentations on content, clarity, enthusiasm, and presentation types. The presenters are required to

TABLE 1
Course Schedule

Lecture	Content
1	Define paradigm; give examples that demonstrate how easily behavior is changed when viewpoint is changed; assign text reading and tapes/book.
2,3	Explain Social Style Profile used by Dow and HP; give examples, strengths and weaknesses of each quadrant; break into pairs and work to identify each other’s primary and backup styles; exercises to modify style.
4	Myers-Briggs Type Indicator; discussion of categories led by counselor.
5	Student Team Presentations (STP) and discussion begin; Overview of the text <i>7 Habits</i> (Covey); Summary of <i>The Hero Within</i> (Pearson)
6	STP: Being Proactive (Covey) From Innocent to Orphan (Pearson)
7	STP: Begin With the End in Mind (Covey) The Wanderer (Pearson)
8	STP: Put First Things First (Covey) The Martyr (Pearson)
9	STP: Think Win/Win (Covey) The Warrior (Pearson)
10	STP: Seek First to Understand (Covey) The Magician (Pearson)
11	STP: Synergize (Covey) The Return (Pearson) Sharpen the Saw (Covey)
12	Guest lecture on diversity in the workplace; paradigms on gender and intergender communication; (by Associate Director of Women’s Studies).
13	Guest lecture on negotiation styles and benefits (by the University Ombudsman).
14	Conflict resolution; assessment of student styles and comparison to styles of industrial managers.
15	Team building using Legos™ to make a structure when only one person on the team can see the structure and he/she is not allowed to do the building (led by career development counselor).
	Final Exam: Written short-answer exam over concepts.

involve their audience and to assign a homework exercise to the class.

Eventually, the students are asked to apply this philosophical learning to issues in the workplace. They must write a paper and are given a choice of books to read and review (see Table 2). Ideally, they would take both Covey's and Pearson's concepts and interpret their chosen text from the point of view of these paradigms. The papers, due at the end of the semester, are graded for content, spelling, and grammar. They range in length from three to ten single-spaced pages. An essay-format final exam is also given at the end of the semester. The purpose of the exam is to test the student's understanding of the texts by Covey and Pearson and the students' ability to analyze the various materials.

Favorite books in 1994 included *Disclosure* (by Michael Crichton), *Conceptual Blockbusting* (by James Adams), *You Just Don't Understand* (by Deborah Tannen), and *The Fifth Discipline* (by Peter Senge). Crichton's book stimulates an excellent paradigm shift in telling the story of a man who was sexually harassed by a woman superior in management. The male students understood the reality of sexual harassment and that the misuse of power transcends gender. *Conceptual Blockbusting* details the phenomenon of being stuck in a paradigm and how to shift. It is directly relevant to the course, and the students who reviewed it recommended that the text be required reading for all engineering students. The female students resonated with Deborah Tannen's book and found excellent explanations for their sense of isolation within the engineering field. Tannen details how the "win-lose" style of communication, which often exists in engineering organizations, works to erode the self-esteem of women. The women who read this book realize that they will have to jump to Covey's "win-win or refuse to play" paradigm if they are going to survive in engineering. *The Fifth Discipline* is less personal in nature, but offers a completely different perspective of organizations. Students began to realize that vital organizations are dynamic, just as vital people are dynamic.

Within the course, it has been important to have a range of texts that correspond to the range of psychological development found in the students. While some students need a very personal "Aha" experience, as given by Crichton, others need a more objective one, such as given by Senge. Because they chose their own books, the students felt comfortable with what they reviewed.

A number of other related topics are also covered in the course: the University Ombudsman lectured on negotiation styles; a guest speaker from the Women's Studies Program helped students recognize that diversity is an issue as broad as the number of people in the workplace. This speaker showed how each person has a unique culture and thus a unique paradigm, and that an optimal work environment would embrace each unique individual. Diversity is not sim-

ply about race or gender. Rather, it is about being an individual, whether poor, rich, creative, analytical, religious, driven, growing, expressive, short, tall, or amiable.

DISCUSSION

The course is unique in the engineering curriculum. Its content is such that it is best "facilitated" rather than presented in a lecture format. The professor arranges for guest speakers, sets the assignments, and guides the discussions toward the educational mission. The students present their material in a formal manner with handouts and overheads. They are encouraged to create participatory demonstrations for the class. Debate is encouraged as long as arguments are substantiated with facts. "I" statement expressions of feeling are encouraged.

Students often experience paradigm shifts because of the course. One student realized that his poor performance in school was the result of not aligning his behavior with his values. What Covey's book communicates so well is that success can only come from congruency between beliefs and behavior. This student realized that what he truly valued was being a high-school teacher and a coach, not an engineer. As a result, efforts to change his behavior from the outside-in had just never met with success. Recognizing this, he brought

TABLE 2
Texts Used in Course

Required Texts

- *The 7 Habits of Highly Effective People*, Stephen R. Covey; Simon & Schuster, NY, 1989
- *The Hero Within*, Carol S. Pearson; Harper, San Francisco, NY, 1989

Recommended Texts

- *Women in Engineering; Gender, Power, and Workplace Culture*, Judith McIlwee and J. Gregg Robinson; State University of New York Press, 1992
- *That's Not What I Meant*, Deborah Tannen; Ballantine Books, New York, 1986
- *You Just Don't Understand*, Deborah Tannen; Ballantine Books, New York, 1990
- *Intercultural Communication*, Larry A. Samovar, Richard E. Porter; Wadsworth Publishing Company, Belmont, CA, 1990
- *Women's Reality*, Anne Wilson Schaefer; Harper San Francisco, New York, NY, 1992
- *Re-Inventing the Corporation*, Hohn Naisbitt, Patricia Aburdene; Warner Books, Megatrends Ltd., New York, NY, 1985
- *The Fifth Discipline: The Art and Practice of the Learning Organization*, Peter M. Senge; Doubleday/Currency, New York, NY, 1990
- *Conceptual Blockbusting*, James Adams; San Francisco Book Company, 1976
- *Principle Centered Leadership*, Stephen Covey; Fireside Book, Simon and Schuster, 1991
- *Disclosure*, Michael Crichton; Alfred A. Knopf, Inc., New York, NY, 1993

his behavior in line by studying for a second degree in education and shifting paradigms from "other-centered" (what he perceived society values) to that which he values.

A powerful shift occurred for another young man when he stated, "I wish we could go back to the 1950s. It was so easy then because everything was fair before diversity. Men were hired simply on their qualifications." This statement resulted in a class discussion on hiring practices throughout history. The students decided that hiring has never been fair, even for white males. In Boston, getting a job in the past may have required a degree from Harvard or being a member of the correct yacht club.

The skills taught in this class help students to cope with today's job market. Covey's "be proactive" is analogous to the effort needed to leave the Orphan archetype. In the last two years, hiring has been slow and students are quick to fall into Orphan, blaming others for their predicament. An intense class discussion occurred when the students were asked to list their attitudes about the job situation and then to identify the archetype that represented their behavior. They realized that blaming professors, women, minorities, and equal opportunity for the lack of a job is very low-level, orphan behavior. They spent time listing proactive behaviors and ways to solve the problem. In the spring of 1994, this proved to be the most emotional exercise of the semester, and correspondingly, the most useful in terms of applying the course material.

The student response to this course has been consistently bimodal for the last four years. About 80% of the students love it absolutely and wish that they had learned these concepts as freshmen. When I see these students several years after graduation, they report that it remains one of the most influential courses they took in engineering college—while they long ago forgot differential equations, they continue to look at their boss and ask, "I wonder what his/her assumptions are? What is his/her paradigm?" Course comments include: "Great!! The most important thing I've seen in four years as a ChE student. Should be supported and valued by other professors," and "Excellent, great topics, really made me start to think," and "The class I feel should be a two-credit class that is required for every engineer to take each year of his engineering program and should include stress management and more role playing."

The remaining 20% of the students remain skeptical to the end. They see no relationship between social science and engineering. They are so immersed in their own paradigms that they simply cannot shift. They seem to believe that the workplace is just like a classroom—"do your homework and get an 'A'" becomes "solve the technical problem and earn a promotion." Sample comments from these students include: "It introduced me to new topics, but didn't teach me anything," and "It was alright. Didn't learn anything I really need to know. Liked the teacher."

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ChE letter to the editor

PHASE BEHAVIOR CASSETTES AVAILABLE

Dear Editor:

In the late 1960s, I prepared some instructional films (remember films?) on phase behavior (both single component and binary) with the help of the National Science Foundation and the Chevron Oil Field Research Company.

These films have now been transferred to video cassette and are available at cost from the Department of Chemical and Fuels Engineering, University of Utah, Salt Lake City, UT 84112.

For ordering information and a written description of the content of the films, please call or write

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Interestingly, in the eight years that I have taught various versions of this course, fewer than a handful of women have been in the skeptic group. The women are either inherently interested in social issues or are so tired of being the 'out' group that they hunger for validation of their obviously different paradigms. Applying the concept of paradigms to issues of race and gender in the workplace has resulted in useful class discussions. Today, white males are often at a loss as to what behaviors are problematic and what behaviors are perfectly acceptable. Giving both women and men the skill to shift paradigms and shift belief structures will allow them to be more successful at work.

In conclusion, we are offering a course that broadens the definition of communication. It trains students to communicate successfully at the interpersonal level in the workplace of the 1990s. They should leave with a vision of the workplace as a fluid system filled with people who are constantly growing and changing. A corporation is a wonderfully diverse stew—teams peppered with different points of view are potentially the most satisfying and innovative. As a result of including new communication skill material, our "minority" students leave more prepared to be successful in their careers and our "majority" students can claim greater knowledge of diversity issues and interpersonal skills.

REFERENCES

1. Kuhn, Thomas S., *The Structure of Scientific Revolutions*, University of Chicago Press, Chicago, IL (1970)
2. Covey, Stephen R., *The 7 Habits of Highly Effective People: Restoring the Character Ethic*, Simon and Schuster, NY (1989)
3. *Managing Interpersonal Relationships*, Wilson Learning Corporation (1989) □