To Arrive Where We Started and Know the Place for the First Time?
Re-visioning Technical Communication

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Teachers of technical communication are likely to welcome the emphasis the ABET 2000 accreditation criteria place on effective communication as an integral component of engineering preparation and practice. But we would do well to remember that we are hardly the first to attempt to transform engineering education by giving communication a more prominent place in the curriculum.' Engineering educators, industrial leaders, and others concerned with engineering education seem virtually unanimous in their insistence that communication is essential to success in engineering and thus to engineering education, yet they provide few details about either the ways communication ability is demonstrated or the specific knowledge, skills, and experiences that form the foundation of an ability to communicate effectively. This situation offers opportunities along with intellectual and institutional challenges.

From a practical point of view, one of the most significant aspects of the new criteria is that they abandon the dichotomy in which courses dealing with language were presumed to be **either** "skills" courses **or** intellectually broadening courses, and courses in technical communication usually were designed as skills courses. This dichotomy isolates communication and minimizes its connection to professional development and intellectual activity. At most institutions, these tendencies are exacerbated by disciplinary and departmental structures.

By contrast, the discussions related to the new criteria have been dominated by the vocabulary of integration and interdisciplinarity, a vocabulary that reflects a new view of engineers, their expertise, and their relations with others. This new vocabulary arises at least in part from cultural changes related to technology, changes that we need to understand and exploit in order to effect significant change in a curriculum that has proved remarkably resistant to change. To put it another way, we must re-vision our notions about technical communication in order to revise the curriculum successfully. Perhaps more significantly, we must induce our engineering colleagues to share that vision.

The current emphasis on communication as a professional engineering skill is often attributed to the perception that lack of communication ability keeps engineers out of corporate boardrooms and executive suites and limits the influence of the engineering profession as a whole. While this perception is undoubtedly an important motivation for putting more emphasis on communication, it offers only a partial foundation for a curriculum. To create the courses, pedagogical approaches, and assessment tools that will make communication an integral part of professional engineering education, we will need to go beyond generalizations and ready explanations to inquire into (1) the specific knowledge, skills, and experiences that constitute the

ability to communicate effectively about technical matters and (2) the cultural and historical contexts that have shaped contemporary views of engineers and technology.

We need a new vision of technical communication that is interdisciplinary and integrative and establishes strong links between communication and intellectual activity. It should have several key components.

1.) It should be consistent with the notion of career preparation as education rather than training, i.e., it should prepare people to think, lead, and make decisions rather than to execute the orders of others and follow instructions.

2.) It should stress a long-term and broad perspective, one that takes the future and a wide range of factors into account. It should locate technical subjects within a big picture view in which technical components are seen in relation to organizational and cultural factors.

3.) It should recognize the existence and value of multiple perspectives and help students learn to look at subjects and issues from a variety of viewpoints, as well as recognize the role of non-quantifiable factors in decision-making.

4.) It should abandon the hierarchy implicit in the expert audience/lay audience distinction in favor of a more democratic view in which communicating on equal terms with experts in other fields and people without extensive technical backgrounds are seen as normal parts of professional practice.

5.) It should recognize that both ethical management of technology and successful marketing of new technology require communicating effectively with users and others-mostly non-expert-who are affected by the technology in question. For example, obtaining informed consent from those exposed to technology-related risks and winning acceptance for new technology require communicating with people who are not experts on the technology in question and who cannot be assumed to accept expert views without question.

6.) It should offer students instruction and practice in writing and speaking, reading and listening as well as formal and informal, visual and verbal communication.

One of the most striking features of this "new vision" is that many of its elements have been included in previous blueprints of liberal education for engineering students. We have in a sense arrived where we started several times over the last one hundred years. Our challenge for ABET 2000 and beyond will be to "know the place for the first time" in a way that will achieve lasting change in engineering education.

1. Allan Gianniny, "A Century of ASEE and Liberal Education, the Division and Its Predecessors: or, How did We Get here From There, and Where Does It All Lead?' Paper presented a t   June 22, 1993.

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