

**CPTSC**

**Volume 2 Issue 1**

# **Programmatic Perspectives**

Editors

**Tracy Bridgeford**

**Karla Saari Kitalong**

**Bill Williamson**

*Programmatic Perspectives* is published twice a year by the Council for Programs in Technical and Scientific Communication.

The journal is available at <http://www.cptsc.org/pp/>.

### **Editors**

Tracy Bridgeford  
University of Nebraska at Omaha  
Department of English  
Arts & Sciences Hall 189P  
6001 Dodge Street  
Omaha, NE 68182  
402.554.3312  
[tbbridge2@cox.net](mailto:tbbridge2@cox.net)

Bill Williamson  
Department of English  
Zahnow 221  
Saginaw Valley State University  
7400 Bay Road  
University Center, MI 48710  
989.964.4625  
[william@svsu.edu](mailto:william@svsu.edu)

Karla Saari Kitalong  
Michigan Tech  
1400 Townsend Drive  
Houghton, MI 49931  
906.487.3254  
[kitalong@mtu.edu](mailto:kitalong@mtu.edu)

### **Associate Editors**

Gregory Thompson  
University of Nebraska at Omaha  
Laurence José  
Michigan Tech University

© 2010 *Programmatic Perspectives*, Council for Programs in Technical and Scientific Communication

Authors retain all rights to their articles.

## **Editorial Board**

Kaye Adkins

*Missouri Western State University*

Jo Allen

*Widener University*

Stevens Amidon

*Indiana University-Purdue University Fort Wayne*

Cheryl E. Ball

*Illinois State University*

Stephen A. Bernhardt

*University of Delaware*

Stuart Blythe

*Michigan State University*

Jennifer Bowie

*Georgia State University*

Ann Brady

*Michigan Technological University*

Kelli Cargile Cook

*Texas Tech University*

J. Harrison Carpenter

*University of Colorado at Boulder*

Nancy W. Coppola

*New Jersey Institute of Technology*

David Dayton

*Towson University*

Stan Dicks

*North Carolina State University*

Sam Dragga

*Texas Tech University*

James Dubinsky

*Virginia Tech*

Angela Eaton

*Texas Tech University*

Michelle Eble

*Eastern Carolina University*

Doug Eyman

*George Mason University*

Tim Fontaine

*St. Cloud State University*

Jay L. Gordon

*Youngstown State University*

Jeffrey T. Grabill

*Michigan State University*

Barbara Heifferon

*Rochester Institute of Technology*

James Henry

*University of Hawai'i at Manoa*

Brent Henze

*North Carolina State University*

K. Alex Ilyasova

*University of Colorado at Colorado Springs*

Dan Jones

*University of Central Florida*

James Kalmbach

*Illinois State University*

Bill Karis

*Clarkson University*

Kevin LaGrandeur

*New York Institute of Technology*

Barbara L'Eplattenier

*University of Arkansas at Little Rock*

Bernadette Longo

*University of Minnesota*

Michael G. Moran

*University of Georgia*

Rick Mott

*Eastern Kentucky University*

Cezar Ornatowski

*San Diego State University*

Elizabeth Pass

*James Madison University*

Tiffany Craft Portewig

*Auburn University*

Janice ("Ginny") Redish

*Redish & Associates, Inc.*

Jingfang Ren

*Michigan Technological University*

Geoff Sauer

*Iowa State University*

J. Blake Scott

*University of Central Florida*

Graham Smart

*Carleton University*

Kirk St. Amant

*East Carolina University*

Barry Thatcher

*New Mexico State University*

Wanda Worley

*Purdue University*

Dave Yeats

*Perceptive Sciences Corporation*

# Programmatic Perspectives

Volume 2, Issue 1

March 2010

---

Front Matter..... i

## From the Editors

Issue Preview..... 1

*Tracy Bridgeford, Karla Saari Kitalong, Bill Williamson*

## Articles

Including Technical Communication in General Education:..... 3

The Proposal, Design, and Outcomes of a New Course

*Lu Rehling and Neil Lindeman*

The Role of the Cognate Course in Graduate..... 23

Professional Communication Programs

*David Christensen, Keith Gibson, and Laura Vernon*

Authentic Assessment in Technical Communication ..... 42

Classrooms and Programs: Proposal for an Integrated Framework

*Han Yu*

## CPTSC 2009 Keynote

Knowledge Communication:..... 59

Formative Ideas and Research Impetus

*Peter Kastberg*

## Program Showcase

Cedarville University Technical and..... 72

Professional Communication

*Sandi Harner*

## Guest Editorial

Balancing Acts: A Case for Confronting the Tyranny of STEM ..... 86

*Robert R. Johnson*

## Book Reviews

Designing Globally Networked Learning Environments:..... 93

Visionary Partnerships, Policies, and Pedagogies

*Geoffrey Sauer*

*Resources in Technical Communication*:..... 96  
*Outcomes and Approaches*  
*Nancy W. Coppola*

**Announcements** ..... 100

## Issue Preview

**Tracy Bridgeford**

*University of Nebraska at Omaha*

**Karla Saari Kitalong**

*Michigan Technological University*

**Bill Williamson**

*Saginaw Valley State University*

**W**e're pleased to celebrate the first anniversary of *Programmatic Perspectives* with the publication of Volume 2, Issue 1. A special thank you goes out to Kathryn Northcutt, who served as Book Review Editor for the first year, but will now be moving onto other projects. The year has been a good one for the journal, and this issue promises to continue that trajectory with three articles and the published keynote from last fall's CPTSC conference, each of which encourage us to look outside of our immediate surroundings for ideas and inspiration.

The issue opens with a piece by Lu Rehling and Neil Lindeman from San Francisco State University, who chronicle their successful inclusion of a technical communication course within the university's general education offerings. By designing a course that positions professional and technical communication not as a set of skills or a toolkit of techniques but as a "legitimate, rich, and interesting area of study" within the humanities, and walking us through the rigors of gaining approval for such an offering, Rehling and Lindeman provide inspiration for thinking beyond the traditional service course.

David Christensen, Keith Gibson, and Laura Vernon of Utah State University invite us to look beyond our own disciplinary contexts, this time by interrogating rationales for including cognate courses within technical communication graduate education. The authors contacted graduate program directors at the 22 universities that grant the PhD in technical communication or closely related fields. In their article, they explain what they learned about why programs discourage, permit, or forbid students' inclusion of cognate courses and present their own contextualized argument in favor of one of the positions.

In an attempt to bridge the gap between the classroom and the workplace, Han Yu describes “authentic assessment,” a method that integrates elements of workplace-based performance review in classroom assessment contexts. She translates the language of business—return on investment, value added—into useful concepts for the classroom, and explores assessment as a reciprocal learning space in which business people and academics engage with each other’s methods to enhance mutual understanding and draw upon each other’s strengths.

Kastberg’s piece takes us right out of our homes and transports us to the University of Aarhus, Denmark, the site of last summer’s CPTSC conference. This international locale moves us closer to the international realm we have been seeking since 1998 when Debby Andrews urged us toward this path. In this, the published version of his keynote presentation, Kastberg reframes the work we do as technical communication scholars in terms of scholarship in the fields of Knowledge Communication and Language for Specific/Special Purposes. Adopting a “history of ideas” approach, Kastberg explains the background to this convergence of disciplines and offers strategies not for unearthing the answers but for “finding the questions” that could shape future research in our field.

In addition to these four thought-provoking articles, this issue also includes Sandi Harner’s history and current status of Cedarville University’s Technical and Professional Communication program, and Bob Johnson’s guest editorial, “Balancing Acts: A Case for Confronting the Tyranny of STEM.” This marks the first guest editorial for the journal, and we would like to extend an invitation to those interested in writing editorials for future issues. The editorial typically takes the form of an elongated position statement (roughly 2000–3000 words). Book reviews by Geoffrey Sauer and Nancy Coppola are also included in this issue. As we are always looking for more book reviews and review essays, contact Tracy Bridgeford at [tbridgeford@unomaha.edu](mailto:tbridgeford@unomaha.edu) if you are interested in submitting.

We continue to seek submissions focusing on all areas of programmatic development and program administration. Please consider beginning and developing your position statements for CPTSC 2010 into a manuscript for Volume 2, Issue 2 coming this September or another future issue. Any and all commentary on this or previous issues is invited if you wish to respond. Happy Spring!

# Including Technical Communication in General Education

## The Proposal, Design, and Outcomes of a New Course

**Lu Rehling**

*San Francisco State University*

**Neil Lindeman**

*San Francisco State University*

**Abstract.** This article analyzes how and why technical communication programs can and should integrate courses within general education curricula, discussing relevant scholarship and our own case study. We address the rationale for positioning a course among traditional liberal arts offerings, the cultural challenges that pose obstacles to doing so, and the potential benefits. We also describe our process proposing a technical communication course for general education, the design of that course, lessons learned, the successful outcome, and the encouraging implications for other technical communication programs and for our field, especially at a time when undergraduate curriculum reform is prevalent.

**Keywords.** course design, curriculum innovation, general education, humanities, liberal arts, program development, status of technical communication, undergraduate studies

*As with sex, learning how to connect one's education and life's work is best done thoughtfully and with responsible adult involvement.*

*The Carnegie Foundation for the Advancement of Teaching (Studley, 2004)*

**A** recent study reports that almost nine of ten American colleges and universities surveyed are “in some stage of assessing or modifying their general education program” (Hart Research Associates, 2009, p. 2). This suggests that now is an opportune time for technical communication program administrators to consider the possible role of technical communication courses in general education, courses that have great potential for connecting students’ educations with their work lives. To be clear, we are speaking of technical communication courses that are included in general education, not

---

*Programmatic Perspectives*, 2(1), March 2010: 3–22. Contact authors: <rehlingl@sfsu.edu> and <lindeman@sfsu.edu>.

just as basic subjects writing requirements, but as humanities courses on par with those offered by disciplines that traditionally have been associated with liberal education.

Progressive program administrators may want to capitalize on this opportunity to make technical communication studies more central to their institutions and more influential with more students: goals common to most programs. General education courses also may offer immediate benefits to programs, such as higher enrollments, new teaching opportunities for faculty, and possibly even protected status in times of budget cuts. We further maintain that when technical communication shifts to become part of general education there can be larger benefits as well. Although, as we will discuss, many people may not assume technical communication courses are an appropriate representation of the humanities in general education, there is an argument to advance in favor of positioning our discipline within the humanities not just theoretically (as technical communication practitioners have long done among themselves), but in the way courses are represented within a university's goals for liberal arts education.

In fact, we make the case here that one path to progress and advancement for our field might be for academic programs to integrate technical communication studies as humanities electives within the broader curriculum of their home institutions. We expect that many scholars in our field share our enthusiasm for any such opportunity to strengthen the status of technical communication as a discipline and thereby extend the reach of technical communication researchers and teachers.

Our advocacy is energized by our recent experience in proposing and designing a technical communication course as a humanities elective for the general education program at San Francisco State University. The only downside experienced in having our new course become part of the general education program were the challenges posed by the process of acceptance itself: difficulties embedded within a larger cultural challenge. Having surmounted those challenges with the happy result of our course having had successful outcomes, we offer it as a case study for program administrators, describing its local features and benefits while generalizing how they might apply in different circumstances as well.

Before providing fuller context and case study detail, it is important to note that integration of technical communication studies as humanities offerings within general education would not require repositioning academic programs in technical communication (and related fields) from the variety of program homes where they currently reside. Nor would integration require modifying the range of specialized degrees and credentials offered. Of course, once a

course is included in general education, there might be more rigorous oversight, requiring a more standardized curriculum or particular modes of assessment by a general education oversight group. However, for many programs, these expectations might not be either unusual or unwelcome, because they already are common for many composition and service courses, some of which already may be included in general education at some universities.

When repositioning technical communication courses as humanities electives, the issues are different. In this case, the repositioning required is intellectual, political, and practical. Intellectually, the opportunity is for those of us who are technical communication professors to see our subject area as an appropriate subject for general education and to persuade colleagues in other disciplines to share that view. Politically, the opportunity is to develop at least one course that fits within existing guidelines for general education, to market that course effectively to curricular gatekeepers, and to make it accessible and interesting to prospective students whose primary areas of study are in other fields. Practically, the opportunity is to implement the course in a way that maximizes its benefits for students, programs, and institutions. To address these opportunities effectively requires understanding up front the present context in which both technical communication programs and general education programs co-exist.

## **The Argument in Favor**

General education is one of the important and longstanding elements of a liberal education curriculum (Humphreys, 2006). How different institutions specify general education requirements varies, but, as the Association of American Colleges and Universities (2002) notes,

The shape of the undergraduate curriculum was essentially fixed half a century ago. It combines broad general education common to all students (usually completed in the first two years or out of sequence in later years), more specialized study (a major) to give deeper knowledge of a chosen field, and electives to suit students' individual interests. (p. 16)

In the great majority of institutions, the breadth component of general education is not limited to a core curriculum, but includes distribution requirements, which provide a range of courses that can count as satisfying selected general education goals (Hart Research Associates, 2009, pp. 12–14). In many institutions such distribution requirements may offer the most accessible options for including a technical communication course as a humanities elective, as was true at San Francisco State University. However, other elements of general

education programs—such as thematic clusters and learning communities—may offer technical communication courses as points of entry into general education as well.

The rationale for including technical communication courses among general education requirements for the humanities proceeds from defining technical communication as a liberal art in the sense advocated by Robert Johnson (2009): as a field of study that “engenders the pursuit of knowledge for its own sake *and* one that engenders knowledge of production and, ultimately, of use” (p. 54). This definition, along with the pedagogical norms in our field, connects technical communication studies to several current trends in reforming general education programs. These trends emphasize engaged learning practices, student research, interdisciplinary studies, and more integration of general education with major course work and professional goals to encourage curricular coherence and student engagement (Association of American Colleges and Universities, 2002, pp. 31–33; Boning, 2007, pp. 10–13; Center for Studies in Higher Education, 2007, p. 20; DiConti, 2004, pp. 167–168; Harris, 2006, pp. 193–197; Hart Research Associates, 2009, pp. 7–14; Huber & Breen, 2007; Raelin, 2007).

In addition, of course, the subject matter of technical communication course work includes traditional humanistic topics and methods such as rhetorical analysis, ethical perspectives, genre development, cultural studies, discourse communities, international and diversity concerns, and the role of narrative in inquiry and knowledge-building. Technical communication courses also teach visual literacy, language fluency, and the writing process—all, again, subjects critical to the skill-building goals of general education programs. In other words, technical communication courses cover much of the same territory as courses in art, literature, and many other disciplines typically included in general education programs.

## **The Cultural Challenges**

However arguable it may be that technical communication courses would be appropriate and relevant as humanities courses for progressive general education programs, the institutional culture that makes decisions about general education programs may not be welcoming. Technical communication courses historically have not been included in general education. In fact, Thomas Barker (2007) reports that his “informal survey of current programs reveals that technical communication is, to this day, not considered a humanities course to count for general degree requirements, in *any* undergraduate program in North America” (p. 26). Although some exceptions doubtless exist, such as SFSU’s course (which launched around the time that Barker’s comments were published),

clearly general education programs will not include technical communication courses by default, especially not as humanities electives, rather than as courses that might count toward a basic subjects writing requirement. We recently visited the websites of over a dozen universities with well-known and longstanding undergraduate programs in technical communication and could identify only one that included technical communication courses as humanities electives within its general education offerings.

This lack of inclusion is somewhat unsurprising, because, in fact, anyone making the case for including technical communication offerings among humanities courses that should be part of general education may face ingrained attitudes in opposition. Adele Pittendrigh (2007), Susan Steele (2006), and other general education reformers have (sometimes humorously) documented the difficulties, in general, of revising such programs. General education requirements often have long histories and reflect not only defensible educational ideologies and efficient habits but also turf boundaries and intellectual fashions—all of which can encourage impassioned resistance to change, and equally impassioned demands for specific changes whose righteousness often seems to reside in the eye of the beholder. In addition, it can be difficult to implement the progressive integrative principle into general education due to the “harsh realities” that “discourage innovation” in general education: difficulties posed by the disciplinary structure that dominates contemporary colleges and universities (Center for Studies in Higher Education, 2007, pp. 11–19).

It is not easy to add to such a political circumstance an unfamiliar and probably unexpected claim on the part of technical communication. This claim is especially true due to ingrained attitudes about the role of career-oriented and professional programs within the academy. As Jamiene S. Studley (2004) notes,

Lately academia seems to be consciously embracing the importance of integrating all aspects of the undergraduate educational experience . . . . But even with this comprehensive vision, the dimension of work, past, present and future, is typically left out of the integrative model. (para. 4)

Studley also tellingly quotes a colleague’s remark that “the whiff of vocationalism is downright repulsive to many faculty” (para. 5). As Gerald J. Savage (2004) has observed, “among traditional scholars” there is “a lack of respect for technical communication as an academic discipline” (p. 180). This lack of respect may come in part from the comparatively young and interdisciplinary nature of technical communication, which still “struggle[s] to develop intellectual identities for the field and its academic programs” (Johnson, 2009, pp. 53–54). In addition, because our field is career-oriented with close connections to business

and industry (as well as with nonprofit organizations and government agencies), sometimes others who do not understand the humanistic foundations of our practice, teaching, and research may easily misunderstand technical communication as limited to training.

Whether rejection of the legitimacy of a technical communication course as a humanities elective for a general education program is based on lack of understanding or self-serving prejudice, some patient persuasion may be required to build trust. Technical communication professors can remind their colleagues that the

Philosophy of liberal education depends less on particular subject matter than on an approach to teaching and learning. A student can prepare for a profession in a “liberal,” mind-expanding manner, or study the humanities or social sciences (traditional “liberal arts” disciplines) narrowly and shallowly. (Association of American Colleges and Universities, 2002, p. 25)

It may be particularly helpful to present such a position to college or university administrators as well as faculty colleagues because the role of administrators privileges them both to define their institutional missions broadly and, when necessary, to enforce change (Center for Studies in Higher Education, 2007, pp. 15–19; Steele, 2006, pp. 171–172).

## **The Potential Benefits**

Although it may be difficult to wage, the battle for inclusion of technical communication course work as humanities electives in general education programs could be worthwhile for those who can stomach the fight. For a technical communication program to offer a general education course can improve the program’s impact and visibility. This offering can provide immediate and practical benefits, plus have important, positive, long-term effects.

Beginning with the student benefits, many students may more easily find merit in a course about writing that connects directly to their interests. This connection is particularly true because, as Deanne Gute and Gary Gute (2008) note, undergraduates today may suffer from a prevailing “epidemic” of “academic disengagement” (p. 192). Correspondingly, they may hunger to feel that their path to a degree is filled not just with hurdles but also with courses that motivate them and encourage them to actively participate in learning that has “real world” applications.

As for program benefits, among the tangible reasons for developing our program’s new general education course at San Francisco State University, one was to recruit potential new majors and minors. Ours is a specialized, career-

oriented, independently housed technical and professional writing program that had offered only upper-division courses before we introduced our new lower-division general education offering. As a result, despite a variety of outreach and promotional efforts, our program often seemed to fly under the radar. Nothing has been more frustrating for us as advisors over the years than meeting students who bemoaned the fact that they “never heard of” our program and “didn’t know it existed” until they were too far along on their paths to graduation to make technical communication a focus of study. A lower division course could help to prevent the existence of our program being unintentionally a well-kept secret. Also, nothing has been more worrisome than the low enrollments that have now and again plagued some courses (especially in response to external economic factors such as economic cycles and their employment consequences). These factors have challenged the supportive intentions of our dean, who has struggled with tough decisions about how to allocate resources college-wide, and in the past, needed to justify special accommodations for our program.

Of course, even technical communication programs situated somewhat differently in terms of their home departments and budgets still might struggle, as we did, with what Johnson (2009) has identified as “the ‘nonmaterial’ problem of making our identities visible” (p. 54). The new exposure to students afforded by a general education course can lead to the advantage of new students joining any technical communication program.

Another reason for our program to develop our new general education course was to take some enrollment pressure off our existing course offerings, some of which we could never expect would enroll a high number of students due to course prerequisites, technical content, lab requirements, expectations for extensive revision feedback in addition to grading, and so on. By designing a course for general education that could be about workplace writing, without emphasizing basic instruction in how to write, we could set the prerequisite bar lower and the enrollment ceiling higher, attracting and enrolling more students. Our new general education course was the only course for which we did not need to cap enrollment tightly to ensure that faculty could provide sufficient feedback for substantive revision. Even for technical communication programs that are more supported by service courses (which our program does not offer), improving overall student-faculty ratios can provide an argument for protecting other under-enrolled classes.

Pragmatically, having a course in an undergraduate technical communication curriculum that does not require as much intensive grading and feedback as other technical communication courses typically do benefits faculty. Additionally, it benefits faculty to teach a technical communication course

with students who are earning degrees in other departments *and* who have independently chosen to take a technical communication course. This benefit is a change from students who have been dragooned into technical communication by major requirements, as is true for many in technical communication service courses. In the case of our program, which does not offer a technical writing service course, this new general education offering provides an added benefit of providing the only opportunity for our program faculty to teach a significant number of nonmajors, which can be refreshing.

Complementing these positive and easily identifiable benefits are other benefits of our new general education course that accrue from improving the visibility and impact of our program. Foremost among them is the academic status and recognition that derive from positioning our new course within the Arts and Sciences Core that is a major component of general education at San Francisco State University. Expanding the mission of technical communication programs from serving self-selected students already interested in our field to also exposing new students and faculty colleagues to our methods and concerns can prove worthwhile. Currently, San Francisco State University is transitioning to a graduation writing requirement based upon principles of Writing Across the Curriculum/Writing in the Disciplines. However, at the time we launched our technical communication course for the general education program, both students and faculty across campus often saw writing course work as something relevant only for the English Department to offer and, further, something of a necessary evil. Because the new general education offering from our program positions writing as critical for successfully making the transition from academic studies to professional success, our course demonstrates how learning about writing can include both the reflective and rhetorical aspects typically emphasized in humanistic studies and yet be instrumental as well.

Our field merits having our campus colleagues learn to view technical communication as a legitimate, rich, and interesting area of study. For all technical communication programs, our future success may rely on many people in the larger institutions that we inhabit valuing the contributions of technical communication in ways that go beyond our "image . . . of being a service object" (Johnson, 2009). Obtaining that high regard may rely, in turn, partially upon extending our reach and improving understanding about what we know and do. A worthy goal is to help others become more open to viewing technical communication as belonging among the liberal arts with an added benefit of being an instrumental area of study. Fortuitously, progress toward this goal can derive even from the process required for adding a new course to a general education curriculum. That, at least, was true in the proposal process required for our new, custom-designed general education course at San Francisco State University.

## **Proposal Process and Course Design**

The first step before creating a formal proposal to include a technical communication course as a humanities elective in the general education program at San Francisco State University was to marshal the arguments in favor of doing so and the summary of benefits enumerated above and then to present them for consideration by the dean of our college. Fortunately, although he neither invested any personal enthusiasm in the idea nor engaged to provide direct support, he also did not oppose it and even welcomed at least some practical benefits that might result. Most helpfully, he also suggested consulting with the faculty member from our college who also chaired the committee that would need to approve a new offering among the existing distribution requirements.

This chair of the general education committee accepted the rationale for including a technical communication course in general education, expressed an interest in seeing our proposal, advised us of a looming deadline, and explained the administrative hoops that we would encounter. Most importantly, this veteran of past skirmishes over general education offerings also offered blunt counsel about the politics that might stand in the way of achieving our goal. In this regard, she identified the least contested category of distribution requirements in which a technical communication course offering might plausibly fit, noting that others might require another department in our college to give up turf for us: an outcome that she doubted we could achieve. In addition, she offered to review drafts of our proposal documents before they went to the full committee.

Although our advisor also committed herself to neutrality in her role as chair, not wanting to be perceived as unduly influencing the campus committee in favor of a colleague from her home college, still, it became apparent as the process rolled out that without her savvy guidance our proposal might never have stood a chance. Lesson learned: General education is a specialization with its own dedicated interests and, therefore, no place for the naïve. Having, if not an advocate, at least an insider, helping out can be crucial for technical communication programs interested in moving into the general education arena.

What we quickly learned was that we needed to prepare ourselves to face a curriculum design challenge that we believe is vital to the future of programs in our field: How to position knowledge about technical and professional writing in a way that emphasizes its humanistic approaches, and demonstrates its value to a broad audience. We had to craft all our proposal documents as educational pieces, designed not only to describe our new course but also to explain and pitch our entire field in genres both limited in scope and designed

for other purposes. These forms, and their associated restrictions, probably are similar to those found in the general education bureaucracy of any large institution. They included a fill-in-the-blanks course proposal form with a brief attached syllabus-style summary of course objectives, contents, and methods, a fill-in-the-blanks “assessment matrix” for “course expectations” and another such matrix for “course outcomes” relative to the specific general education distribution requirement for which we were proposing our course, and a “course introduction” summary. The last of these documents was at least one that privileged us to build our argument (and to write entirely in complete sentences and paragraphs). Yet even that posed a challenge, because the summary was limited to one page and we were also told to write it as if it would be read by the audience of students who might enroll in our course—assuming that it passed muster.

In addition to meeting the overarching challenge of explaining our field to an under-informed (and potentially skeptical) audience through such limited means, we also had additional specific issues to address in our course design and our proposal. Both to get a fair hearing for our course from the general education committee and to meet our programmatic needs, our new course faced three specific imperatives: First, the course had to clearly fit the mission of the Humanities and Creative Arts area of “Disciplines and Inter-disciplines” designated as a distribution requirement for our general education program. Second, the course had to be appropriate for a high student enrollment (as many as 50 students in a section). Third, the course had to be suitable for lower-division students from a variety of majors. Although, of course, we had brainstormed course ideas before our initial feelers about a general education offering, once we buckled down to the task of developing proposal documents, we had to refine those ideas carefully, crafting both content and language to fit the decision-making circumstance.

To address the first imperative of addressing our place within Humanities and Creative Arts, we chose weekly class material that introduced fundamental methods and issues in our field. Although we recognized them as fundamental, we knew that our colleagues on the general education committee might not know enough about technical communication to share that recognition, so we used some of our limited space to spell them out. Our course proposal attachment included this list of possible topics for coverage in our new course:

- Ethical considerations in workplace writing
- Teamwork and collaboration in workplace writing
- Effects of internationalization on workplace writing practices
- Channel choices for communications within workplace settings
- Genre conventions for written communications in the workplace

- Document cycling for approvals and mentoring in workplace settings
- Rhetorical analysis of audiences, purposes, and contexts for workplace writing
- Discourse communities in business, industry, government, and nonprofit workplaces

We also referenced these topics in the assessment matrices that were the only vehicle anyone could point out to us to explain what the puzzling label “Disciplines and Inter-disciplines” was supposed to mean. From those matrices, we determined that we needed to address “theoretical and critical perspectives” for study and “methods for interpreting, valuing, and criticizing in given fields or areas,” along with “particular understandings, attitudes, and abilities relevant to human values and personal development.” The key words in our responses were all drawn from the list above: “culture,” “ethics,” and so on. Although this attempt to fit complicated issues into a somewhat reductive schema may seem cynical, we were sincere in trying to define technical communication in ways that stressed a kinship with our colleagues that we, at least, felt deeply and hoped they might acknowledge.

To address the second imperative of class size, we were helped by our initial decision to emphasize concepts, not composition. In other words, instead of focusing primarily on teaching writing skills, we focused on how and why people use writing to get professional work done. This focus would allow us both to limit formal writing assignments and expectations for revision and at the same time to attract students who might be averse to a skills-based course. To that end, we specified in our summary document that this course “is not a writing course per se,” and went on to explain (again, in a document ostensibly addressed to students) that

our focus will not be on writing practice and skill development (as in a composition course), nor on producing pieces for mass media (as in a journalism course), nor on creating literary works (as in a creative writing course). Instead, we will analyze the writing people do in the workplace in order to better understand why they write as they do and how well different types of workplace writing accomplish specific purposes. We will take an interdisciplinary approach to this subject, drawing on perspectives from anthropology, communication studies, language arts, and other fields.

Documents developed for workplace purposes and communities are often as sophisticated as other texts commonly studied in the university. Like a research paper, they can be guided by rigorous rules of inquiry and principles of effective argument; like

a classical oration, they can be examples of artful rhetoric; like a powerful news story or editorial, they can be hugely influential; like a good work of fiction, they can be complicated and original. In addition, workplace writing often is linked to many of the key ethical issues individuals and organizations must confront as they carry out their activities. In other words, the writing genres and processes of the workplace represent rich cultures, value systems, and ideologies.

By including in this statement an appeal to difference—defining our course (in part) by what it was not, we hoped to reassure fears and also to intrigue: if what we would teach would not be what readers might have assumed, perhaps they would be curious to find out what to expect. Therefore, we followed our initial statement of difference with a complementary appeal to similarity, defining our course (in part) in terms of analogs both familiar and valued. We attempted to showcase the interesting features of the field of technical communication as we know it to be: both as a locus for interdisciplinary connections and as a distinctive area of study in its own right. In a bow to marketing, we also eschewed the term technical, instead choosing workplace as a less freighted alternative.

In addition, we attempted to further our marketing objective by directly addressing the issue of academic disengagement discussed previously. Our course summary included direct claims of relevance for students:

As you gain a deeper understanding of the complex world of workplace writing, you will better see how the writing and analytical skills you develop as a student will be useful and important as you pursue your ambitions beyond college. As you learn to see workplace writing in its broader context, you will be better able to analyze the genres of workplace writing critically and use them effectively. And as you become skilled at sizing up the ethical issues linked to specific writing tasks in the workplace, you will increase your own capacity to make sound ethical decisions within organizations.

In short, this course will provide you with new conceptual knowledge about writing for specific purposes, with more developed skills for analyzing and interpreting different types of written works, and with new information and writing samples that will be useful to you in your encounters with workplace writing beyond our classroom.

In this way, we tried to balance the reassurance of traditional humanism with the selling point of instrumental value added.

Finally, to address the third imperative of making our general education course material broadly accessible and interesting, we relied on the power of narrative, identifying for each weekly class topic multiple stories from a range of workplaces, professions, and publication venues that would both expose and elucidate the issues and ideas we hoped to teach. This narrative-based course design was critical to our vision of this new course, perhaps because this structure arose from our interests and excitement about our field. The two of us who designed and who now co-teach this course, "Writing Practices in Professional Contexts," were inspired by research in our field and wanted to share it with students. However, assigning scholarly research reports as readings would have been far too advanced and specialized for the class. So, instead we picked 35 or so journal articles and book chapters that contained narratives we could use to illustrate the concepts and ideas of the course. We agreed to summarize and present those in class in a way that would be accessible to the students, developing slide shows outlining the key events, contexts, and characters from every narrative presented and selecting key passages and documents to share.

This approach has a number of advantages: First, a narrative-based approach can make it easier to keep students engaged in a large class that needs to be based in part on lecturing to deliver summary information. The narratives that we chose to share with students in our new general education course included classics of technical communication studies, such as examining influences on decision-making in the run-up to the Challenger spacecraft disaster. We also included more current examples such as an exploration of the story limned in a series of emails exchanged by emergency aid officials at the time of Hurricane Katrina. We selected narratives about topics that addressed current social issues as well, such as stories focusing on public controversies such as those surrounding environmental action, sexual harassment policy, Asperger Syndrome, and the use of condoms. In addition, we chose stories that investigated the impact of contemporary technologies such as processes for website development and producing graphics such as maps. We also integrated stories concerning the history of technical communication by covering public communications concerning eugenics and the use of parliamentary style minutes. In this area, we did not shy away from narratives with political implications such as comparisons of texts produced by bureaucrats in different federal administrations. The fun of choosing these research-based narratives (and even including a few of our own publications as source documents for the course) was matched by our enthusiasm for how they could serve as vehicles for student learning.

In line with that intention, we deliberately chose narratives that provided platforms for both general discussion topics and small group activities. For example, narratives can encourage students to have opportunities in class to

project alternative story lines, role play communication acts such as genre and channel choices played by the principals, analyze associations between such features as intention and tone, and so on. Such class activities support students because it is easy for students to feel comfortable talking about people and events encountered in narratives. An approach that allows students to develop their understanding of concepts through memorable exchanges and encounters with narrative features can be more effective than asking students to try to work on their own with more abstract material.

Adapting narratives from professional communication research literature also provides opportunities to choose examples from a broad range of professions, which can make it easier to make the course material appealing and relevant to students from many different majors. We deliberately selected stories based on research conducted in nonprofits, government agencies, the military, and universities as well as in business, industrial, and research and development settings. Our goal was that all students, whether they intended to pursue careers in pre-nursing, journalism, accounting, computer science, graphic design, education, social work, or any of a host of other fields, could recognize their future selves as participants in workplace writing stories similar to the ones that we told. We even designed exams that specifically encouraged such identifications by asking students to hypothesize realistic situations in which they might face communication challenges similar to those recounted in class.

Of course, we did not exclude narratives that students could relate to even though they might not be pursuing professional preparation degrees in college. We wanted such students to recognize that they nevertheless might find themselves facing important technical communication challenges in, for example, careers as artists or academics. We chose stories with features to which we hoped that students majoring in disciplines ranging from creative writing and dance performance to ethnic studies and comparative literature could relate.

In addition to appealing to students, narratives can also work effectively with a conceptually focused course such as the one we designed for general education. Over the course of a semester, we built a list consisting of several dozen key concepts that we and students could use for investigating and interpreting technical communication narratives. These concepts encompassed venerable terms such as *ethos*, *logos*, and *pathos*, more postmodern notions such as the uncertainty of knowledge, instrumental methods such as the use of personas and repurposing, practical modes of analysis such as close reading, cultural perspectives such as corporate mythmaking, and organizational and psychological concerns such as team writing and collective mind. Early on, we used narratives to introduce concepts that later could be referred back to and

applied later to research-based stories. The richness of carefully chosen narratives can give students ample opportunities to analyze and apply concepts as they are introduced or reviewed.

Another benefit of narratives is that they lend themselves easily to the work our new course design required from students. Again, with a goal of limiting feedback and grading on writing skills, while still encouraging reflective writing practice, we designed frequent, informal writing assignments that respond directly to memorable narrative material. We also designed exams that ask students to refer back to narratives when they demonstrate their understanding of class concepts. The stories told in our course also could prepare students for the more formal writing assignments required (a persuasive memo and an analytical report based on quantitative information) because we designed these assignments to be based on realistic technical communication scenarios.

Of course, we could not articulate all of these details within the constraints of the written proposal documents for our proposed new general education. However, having committed significant time up front envisioning how this course would be taught proved exceptionally helpful for the next stage of the process at our institution, which was defending our proposal before the campus general education committee that would need to approve it.

## **Outcomes and Implications**

The meeting with our general education committee at San Francisco State University, which includes representatives from all eight colleges across campus, was civil, but not warm. Although some members of the committee asked questions and offered apparently positive comments, others explicitly disagreed with the premise that technical communication deserved even consideration as an offering within Humanities and Creative Arts. One such individual was among the first to speak in the discussion that followed the initial oral summary of our documents that one of us, representing our program, was invited to make. Because he was the former director of a recently defunct interdisciplinary arts program that had been highly regarded across campus and also was a long-time and active member of the general education committee, we recognized that this individual's voice might well carry significant weight. We also were taken a bit off guard by his vociferousness and fixed ideas based on allegiances formed in previous work together on another campus committee.

Also, although we were grateful for the support advanced by another individual who backed our proposal most strongly, we realized that as being a representative of the business college, he might have made some members inclined to purist views even more suspicious of our proposal. Overall, we felt

that the interdisciplinary connections we had formed across campus over the year created some good will for our proposal in the review process, but that openness was balanced by discomfort with innovation.

In the back and forth conversations that took place concerning the details of our proposal, we acceded to several suggestions for improvement put forward by members of the committee. One suggestion was to change the title of our proposed offering to "Writing in Professional Contexts," rather than "Writing in Workplace Contexts," as initially proposed. This request was suggested on grounds both of improving appeal to students and for removing a perceived taint that our courses might have an objective of servicing corporate purposes and presumed ideologies. We also were asked to modify our ideas for possible assignments to exclude any that might have a job search agenda (such as developing a resume) or be too technological (such as developing a computerized slide show). In these negotiations, we demonstrated our willingness not only to accept but to suggest compromise positions (even in response to suggestions based on what seemed to us rather dubious assumptions).

This conciliatory attitude appeared to help us to get a fair hearing for our more foundational argument, the key points of which we repeated and attempted to explain with examples that spoke to the potential value of our course for students from all the colleges represented on the committee. To their credit, some members of the committee noted that their concerns were less for students who might enroll in our course than for other students, particularly those enrolled in technical courses of study that required high unit counts in major course work, making the choice of distribution requirement options particularly sensitive. We responded by affirming that such students would receive in our course meaningful exposure to humanistic ways of knowing. We also acknowledged the importance of their concerns, noting, as Veronica D. DiConti (2004) has stated, that "the quest of higher education . . . becomes one of finding the golden mean between the preparation of careers and cultivation of values" (p. 181).

After we left the meeting, with no certainty about how the subsequent vote on our proposal might go, we were pleased to learn that the committee had approved it, although by a narrow margin. Any other technical communication program interested in proposing a general education course might do well to expect similar skepticism and controversy, but also may find in our experience grounds for a reasonable hope of success.

Of course, our hopes were not just for success in being able to offer our new general education course, but also for it to meet the goals that we intended for it, providing the hoped for benefits for our program, faculty, students, and institution. Fortunately, based on several offerings of the course to date, we already can report progress toward those very outcomes.

First, every section we have offered of the courses has led directly to new students taking additional technical communication classes as electives and, in a number of cases, to students changing or adding technical communication as a major or minor. Even those students who may never take another technical communication class often express their appreciation for how our general education offering helped them to understand the importance of writing for their professional futures. Their enthusiasm and interest are invigorating, and we have heard that positive word of mouth about the class has led others to enroll in subsequent sections of it or in some of our other courses.

Probably as a result, every time we have offered this course it increased in size until it reached the enrollment cap set for it. This, in turn, improved the student-faculty ratio for our small program, so that it exceeded previously established enrollment targets. Although it remains true that our small classes always will be subject to possible cancellation, especially in times of extreme budget pressure, it has been helpful to be able to point to how our new general education course offsets the expense of our under-enrolled classes.

As faculty who teach the course, we also have been pleased by the variation it has provided both in our workload and in the types of students we encountered. Although having twice the number of students per class as was usual for us to teach was an adjustment, we have appreciated being able to spend more time reading and reacting in class to their informal writing, rather than providing extensive written comments on papers that they would revise. It was helpful in this class to maximize our use of an online course management system, which made informal writing assignments easy for us to review and for students to share. We also were glad to see how such sharing helped to bring a sense of community and an enthusiasm for small group work and discussion even to a large-size class.

Another benefit that surprised us somewhat was experiencing the difference among students in a lower division course in contrast with the students enrolled in other courses that we taught (mostly juniors, seniors, and graduate students pursuing a certificate). These students' relative inexperience with even much academic writing gave freshness to their engagement with the material we introduced. Having a mix of majors and interests among the students in the course also added variety to students' responses in class. We were gratified to hear from students from a variety of majors about the ways that they related the topics we raised in our technical communication course with topics they were studying for other courses. Often, students would enthusiastically contribute information about such connections in class discussions, increasing all students' awareness of how technical communication draws upon and reflects other disciplines. We also heard from students about workplace experiences

that validated concepts introduced in our course. The result from all these benefits was to enhance our credibility as faculty and to make teaching our general education offering a welcome and interesting teaching break.

The effect of the new course on our institution and how our colleagues see our field, of course, is something that will unfold and that we will need to evaluate over time. Ours is an experiment with no controls and only subjective measurements. Despite that qualifier, it is clear that the general education approval process alone did much to open understandings and enhance the reputation of our program as innovative and interdisciplinary with serious intellectual concerns—rather than just the narrow approaches of training, as might have been assumed. Having our program name on the list of distribution requirements automatically improves our reach.

We would not claim that the popularity and effectiveness of our general education course could eliminate the “fragility factor” that Johnson (2009) has identified as endemic to technical communication programs (p. 50). However, a technical communication course that is a humanities elective within general education can contribute to the program diversity Dale L. Sullivan (2009) identifies as healthy for long-term sustainability, avoiding the dangers inherent when we as technical communication academics instead “market ourselves as specialists” (pp. 65–66). His analysis suggests that our viability may flourish when we contribute to the process of “reinvigorating liberal education” that the Association of American Colleges and Universities (2002) has identified as critical for the “new academy” that “celebrates practical knowledge” (pp. 15, 44).

There is something to be said for any technical communication program that introduces a humanities course such as our general education offering at San Francisco State University. Moreover, we believe that many programs could become stronger should the inclusion of technical communication become one of the trends associated with the current wave of undergraduate curriculum reform in general education.

## References

- Association of American Colleges and Universities. (2002). *Greater expectations: A new vision for learning as a nation goes to college*. Retrieved February 26, 2010, from the AAC&U, Greater Expectations Web site: <http://www.greaterexpectations.org/>
- Barker, Thomas. (2007, January). Trends in academic technical communication: A complex picture. *Intercom: The Magazine of the Society for Technical Communication*, 56(6), 25–28.
- Boning, Kenneth. (2007). Coherence in general education: A historical look. *The Journal of General Education*, 56, 1–16.
- DiConti, Veronica D. (2004). Experiential education in a knowledge-based economy: Is it time to reexamine the liberal arts? *The Journal of General Education*, 53, 167–183.

- Gute, Deanne, & Gute, Gary. (2008). Flow writing in the liberal arts core and across the disciplines: A vehicle for confronting and transforming academic disengagement. *The Journal of General Education*, 57, 191–222.
- Harris, Michael S. (2006). Out out, damned spot: General education in a market-driven institution. *The Journal of General Education*, 55, 186–200.
- Hart Research Associates. (2009, May). *Trends and emerging practices in general education*. Retrieved February 26, 2010, from the Association of American Colleges and Universities, General Education Web site: <http://www.aacu.org/resources/generaleducation/>
- Huber, Mary T., & Breen, Molly. (2007, February). Integrative learning: Putting the pieces together again. *Carnegie Perspectives*. Retrieved February 26, 2010, from <http://www.carnegiefoundation.org/perspectives/integrative-learning-putting-pieces-together-again>
- Humphreys, Debra. (2006). *Making the case for liberal education: Responding to challenges*. Retrieved February 26, 2010, from [http://www.aacu.org/leap/documents/LEAP\\_MakingtheCase\\_Final.pdf](http://www.aacu.org/leap/documents/LEAP_MakingtheCase_Final.pdf)
- Johnson, Robert R. (2009). Trajectories, kairos, and tulips: A personal reflection and meditation on programs in rhetoric, technical, professional, and scientific communication. *Programmatic Perspectives*, 1(1), pp. 45–58.
- Pittendrigh, Adele. (2007). Reinventing the core: Community, dialogue, and change. *The Journal of General Education*, 56, 34–56.
- Raelin, Joseph A. (2007). The return of practice to higher education: Resolution of a paradox. *The Journal of General Education*, 56, 57–77.
- Savage, Gerald J. (2004). Tricksters, fools, and sophists: Technical communication as postmodern rhetoric. In Theresa Kynell-Hunt & Gerald J. Savage (Eds.), *Power and legitimacy in technical communication: Volume II: Strategies for professional status* (pp. 167–193). Amityville, NY: Baywood Publishing.
- Steele, Susan. (2006). Curricular wars. *The Journal of General Education*, 55, 161–185.
- Studley, Jamiene S. (2004, March 17). Vocation is not a dirty word. *Carnegie Perspectives*. Retrieved February 26, 2010, from <http://www.carnegiefoundation.org/perspectives/vocation-not-dirty-word>
- Sullivan, Dale L. (2009). Growth and community: A few thoughts on the organics of professional communication. *Programmatic Perspectives*, 1(1), pp. 45–58.
- University of California, Berkeley, Center for Studies in Higher Education. (2007, April). *General education in the 21st century: A report of the University of California Commission on Higher Education in the 21st Century*. Retrieved February 26, 2010, from <http://cshe.berkeley.edu/research/gec/>

---

### **Author Information**

Lu Rehling is a Professor in the Technical and Professional Writing Program at San Francisco State University, where she has taught since 1994. She also has over 15 years of professional industry experience as a writer, editor, trainer, manager, and consultant. Her PhD in English Language and Literature is from the University of Michigan, Ann Arbor.

*Including Technical Communication in General Education*

Neil Lindeman is an assistant professor in the Technical and Professional Writing Program at San Francisco State University, where he has taught since 2005. Prior to joining SF State, he spent several years working as a managing editor for a large environmental nonprofit in Washington, DC. He has a PhD in Rhetoric and Professional Communication from Iowa State University.

# The Role of the Cognate Course in Graduate Professional Communication Programs

**David Christensen**

*Utah State University*

**Keith Gibson**

*Utah State University*

**Laura Vernon**

*Utah State University*

**Abstract.** The last decade has seen a surge in the number of professional communication doctoral programs. This sudden growth has led to new program administrators around the country rethinking how best to approach graduate study in professional communication. One area is the status of courses taken outside the home department, also known as cognate courses. This article explores the rationale for the various approaches to the cognate course by PhD programs in technical and professional communication. We explain reasons for discouraging, allowing, or requiring the cognate course. And though there are good reasons for each stance, we conclude by arguing for an interdisciplinary approach to doctoral professional communication programs of study that requires cognate courses.

**Keywords.** cognate courses, collaboration, interdisciplinarity, PhD programs, program administration

The last decade has seen a surge in the number of professional communication doctoral programs. Foundational pedagogical essays in the late 1990s on designing professional communication programs lamented the unfortunate reality of only seven PhD-granting institutions producing trained scholars and researchers in professional communication (Wahlstrom, 1997, p. 301). Today, there are approximately 22 doctoral programs, with more anticipated in the near future. In just the past four years alone, four universities have established doctoral programs in professional communication—East Carolina University, North Dakota State University, Utah State University, and Virginia Polytechnic Institute and State University. The field is growing as never before.

---

*Programmatic Perspectives*, 2(1), March 2010: 23–41. Contact authors: <dm.christensen@usu.edu>, <keith.gibson@usu.edu>, and <laura.vernon@usu.edu>.

This sudden growth has led to new program administrators around the country rethinking how best to approach graduate study in professional communication. These new administrative perspectives have led to some interesting experimentation in search of the right mix of coursework and experience for doctoral students. One area in which there is plenty of variation is the status of courses taken outside the home department, also known as cognate courses. These cognate courses, although taken outside the department, relate directly to the student's program of study, even enhancing it by providing a different theoretical approach to the student's project. For example, students with an interest in organizational communication and management may benefit from courses in the business school, or students researching environmental rhetoric may augment their coursework with environmental studies in the department or college of natural resources. In the prior case, one of us, a doctoral student studying the genre and social structures evident in grant proposal writing, took courses in organizational change and training in the business school. These courses have proven valuable for gaining insight into the organizational structures that come to bear in such writing as well as helping to identify best practices and developing interventions for professors and principle investigators engaged in it. In the latter case, cognate courses in environmental history, theory, and psychology allowed another author of this article, a PhD student studying proenvironmental behaviors and civic engagement, numerous opportunities to network with subject matter experts and scholars in the environmental field. Networking has proven valuable in helping this PhD student form a diverse dissertation committee of environmental and professional communication scholars, enriching both the depth and breadth of her research agenda and the eventual contributions to the field.

The institution at which we study and teach requires PhD students to take at least two courses outside the English Department. We have seen some benefits and some difficulties of this requirement, but we knew from conversations with colleagues that many PhD programs do not have such a requirement. Our goal with this article is to explore the rationale for the various approaches to the cognate course by PhD programs in professional communication and closely related disciplines.<sup>1</sup> In the remainder of this article, we report on our research,

---

<sup>1</sup> Discussions of interdisciplinarity necessarily depend on an understanding of one's discipline. As we describe below, when technical and professional communication scholars speak of their "discipline," however, they are often referring to a number of different areas: technical communication, business communication, professional communication, rhetoric, rhetoric and composition, and English studies. This ambiguity can complicate the notion of interdisciplinarity for the professional communication scholar or student. There has been much scholarly work done on the importance of interdisciplinarity regardless of what is considered to be one's home discipline (see, for instance Johnson, 1998; Klein, 1998;

providing explanations for discouraging, allowing, or requiring the cognate course. And though there are good reasons for each stance, we conclude by arguing for an interdisciplinary approach to doctoral professional communication programs of study that requires cognate courses.

## **Background**

Students are as varied as the programs they enter, but there is one common thread among them all—today’s emerging instructors, scholars, and researchers in professional communication must be prepared to succeed in an interdisciplinary workplace of academia or industry, and they must successfully prepare future practitioners to do the same. A broad, cross-functional perspective is a must in today’s collaborative, global workplace. The reality of the twenty-first century workplace, then, raises questions about how best to prepare students to meet these workplace expectations. In 1998, Robert Johnson encouraged the broadening of technical communication, warning against becoming “defensively monodisciplinary” (p. 76). Johnson (1998) suggested that technical communicators borrow from historians, sociologists, and philosophers, crafting an “interdisciplinary space that we should enter as our discipline grows” (p. 97). Stephen A. Bernhardt (1995) argued that we need to provide students with “a key adaptive ability: the ability to learn new behaviors within new technological environments” (p. 601). This adaptive ability is critical as more and more researchers and practitioners collaborate across disciplines to solve complex problems and address multiple issues that affect more than just one discipline in the workplace. For example, professional communicators collaborate with engineers, computer specialists, scientists, and other subject matter experts in various disciplines. Professional communicators write about health, environmental, social, and economic issues that can affect behavior as well as public policy. Furthermore, professional communicators strategize with marketers, public relations practitioners, and organizational or political decision-makers. All these people may be located as close as down the hall or as far away as another state or country.

The good news is that professional communication programs are not the only ones thinking beyond themselves. Sharachchandra Lélé and Richard B. Norgaard (2005) have noted that interdisciplinary scientific collaboration often breaks down when the participants

---

Toynton, 2005; Frodeman and Mitcham, 2007; and Brew, 2008). We are here arguing alongside these scholars about the importance of interdisciplinary thought in that it provides us with various points of view from which to address rhetorical situations. To simplify our terminology, however, when referring to the discipline generally, we call it “professional communication.” Utah State University, our home institution, has adopted this terminology in the name of its PhD program because we believe it includes technical and business communication while remaining focused workplace communication. When referring to the programs of other schools and their disciplines, we will use the names they have chosen.

find that their colleagues define the problem quite differently or seek different types of answers. . . . [they] decide that it takes too much effort to communicate and share knowledge within such a disparate group, and happily retreat to their own special fields, where all the participants use the same models of analysis, are comfortable with the assumptions they share as a group, and consequently 'know' the same things. (p. 967)

Julie Klein (2004) has argued that the only way to overcome these disciplinary barriers is to cross boundaries both horizontally (across disciplines) and vertically (across individual experts and the public) (p. 515). Although difficult, interdisciplinary collaboration and communication is almost always beneficial; it makes for greater policy, products, and actions as low-laying barriers are transformed into far-reaching opportunities (Bammer, 2005, p. 1; Lélé & Norgaard, 2005, p. 968).

Just like professional communication, other disciplines are facing complexity, uncertainty, change, and imperfection—the characteristics of modern society (Bammer, 2005, p. 1). More and more, academic and professional communities are beginning to understand the value of crossing traditional boundaries to gain a broader perspective for managing these characteristics. The time is ripe, therefore, for professional communication to reach broader as well, taking advantage of the strengths other fields of study have to offer. Providing students with this breadth is an important goal, and professional communication program administrators are thinking critically about how best to structure curricula. New PhD programs must pay particular attention to building courses of study that train adaptive students since PhD graduates will occupy important positions in industry or academia, training new professional communicators in the workplace or teaching them in the classroom. One strategy for providing the broad background necessary for students is allowing (and, in some cases, requiring) cognate courses to make up a portion of the PhD coursework. Cognate courses can fill an important role in doctoral students' training because they give students the opportunity to view professional communication through the lens of other disciplines, and vice versa.

## **Research Rationale and Results**

Building and sustaining a PhD program in professional communication requires near-constant wrestling with the difficulties of satisfactorily characterizing professional communication and how best to teach it (see, for instance, Allen, 1990; Britton, 1975; Clark & Andersen, 2005; Connors, 1982; and Hart-Davidson, 2001). We began thinking specifically about the role of the cognate course in that characterization when two of us completed the cognate course requirements

in a professional communication doctoral program, and the other became the program's administrator at USU. As noted above, USU's program requires professional communication doctoral students to take courses outside the English Department, and the three of us had many conversations, discussing the utility of such a requirement. These conversations led to this formal research project in which we try to place the cognate course in the ever-evolving definition of professional communication.

Certainly, understanding the role of the cognate course is important for another reason. The political, cultural, and economic issues at play often influence decisions about program design and administration. For program administrators, encountering these generally non-negotiable issues is their reality. Part of the reason we conducted this research was to examine how these programmatic issues factored into the administrative decision-making process. From our research, it is apparent that many professional communication programs weather a variety of political, cultural, and economic undercurrents that reveal the strain of designing and maintaining salient programs for doctoral students.

To investigate the role of the cognate course in PhD programs in professional communication, we contacted the 22 universities that grant PhDs in technical or professional communication.<sup>2</sup> Between September 2008 and January 2009, we spoke with individuals who are now or have been involved with developing and maintaining these programs, asking them for their opinions about the role of the cognate course in their curricula. And although the departmental requirements are sometimes more complicated than a simple three-part classification system can explain (for example, Purdue), of the 22 programs, we found that fifteen schools allow cognate courses, six require them, and one school discourages but does not forbid them (see Appendix).

In this article, we discuss the place of cognate courses from a variety of perspectives, or recurring themes, which emerged as a result of our research. These perspectives provide a greater understanding of the rationale behind cognate course requirements in professional communication doctoral programs. First, we explain the rationale behind the department that discourages students from taking courses outside the department. There are many issues behind such a decision, including support for graduate faculty throughout the department and a desire to provide graduate students with a broad English background. We then describe the programs that allow, but do not require cognate courses (these include programs that simply allow and some that strongly encourage, as we will describe below). This *laissez-faire* approach gives students the freedom to put together an outside minor that will strengthen the

---

<sup>2</sup> As of January 2009, the ATTW website lists 23 institutions that grant PhDs in technical or professional communication.

technical portion of the professional communication degree or deepen their programs in an effort to attract other English departments. Finally, we discuss the programs, our own among them, that require a number of cognate courses to supplement the English department courses. We examine the positive and negative aspects of such a requirement.

### **Discouraging Cognate Study**

One of the 22 PhD programs in technical communication does not quite fit into either category of allowing or requiring cognate courses, nor do they completely forbid students from taking courses outside the department: Purdue University. The Purdue program allows students to take courses outside the English department under very limited circumstances: If one of the required core classes (such as rhetorical theory) is offered in another department (such as Communications), that department's version of the course can be counted toward the degree. Elective credits, however, must be taken inside the department unless permission is obtained, but no mention of cognate courses is made on the program's website. This passive discouragement of cognate courses has two main causes, according to Richard Johnson-Sheehan: (a) There is a sense among the faculty that outside courses will not help the students, and (b) there has not been a lot of demand by the students to take courses in other departments. For Purdue, these reasons make a fair amount of sense. There is evidence for the former that students graduating with a PhD from Purdue tend to do very well on the job market, and this continued marketability has not inspired the faculty to search for ways to change the degree; the program is not broken; so, as the old saying goes, no one is trying to fix it. The lack of student demand is also seen as a good thing: students keep their courses of study focused and are more likely to complete their coursework in a predictable, timely fashion without getting distracted by overly broad classes. Johnson-Sheehan noted that at the University of New Mexico, his previous institution, students would occasionally get caught going in too many different directions with their courses of study; the more focused Purdue program avoids that temptation (R. Johnson-Sheehan, personal communication, January 12, 2009).

On the other hand, Johnson-Sheehan points out that Purdue is not necessarily opposed to the notion of cognate courses; his own PhD work, for instance, was aided by courses he took in Environmental Studies, and he works with many students who could benefit from coursework in, for instance, the History of Science or Environmental Management, courses not available from the English Department. He also notes that there have been discussions among the Purdue faculty for some time about expanding students' options in this regard, but there has not yet been actual movement in this direction. Purdue's

PhD in English has been around much longer than any of the current doctorates in technical or professional communication, and it is housed in a large department more able to staff the number of courses PhD students require. Absent any specific exigence for change, it is understandable that they continue to keep students in their own department.

### **Allowing Cognate Study**

The majority of the technical communication PhD programs allows, but do not require, cognate courses for students. In our interviews with program directors, the rationale for allowing courses taken outside the department tended to fall into one of three groups: definition of the field, administration of the program, or application of the degree.

### **Administration of the Program**

The first reason for allowing cognate courses was, for many programs, less an intentional choice than it was an administrative reality. As many new PhD programs were getting started, the faculty realized they did not have the personnel to teach all the doctoral-level courses students would need. Texas Tech now houses the largest technical communication PhD program in the country, but in the beginning, Joyce Carter noted, they needed some help: "Originally, when we had very few courses and very few students, it would have been administrative suicide to insist our students stay in our courses" (personal communication, September 9, 2008). This need to offer more courses than their original faculties could support drove many departments to allow students to go outside the department for a portion of their coursework.

This sense of dependence on other departments is uncomfortable, though, and the goal for most beginning programs is to eventually build a strong faculty that will be self-sufficient enough to take care of student needs on their own. Unfortunately, political or economic realities do not always make this self-sufficiency possible as soon as we would like. The University of Memphis began its technical communication PhD ten years ago; at the time, they were a small program covering both composition and technical communication, but had planned to expand so they could meet the needs of new graduate students. It is now, however, a decade later, and Loel Kim told us that "we have never caught up in our hiring" for a variety of reasons, and they still need students to pursue courses outside the department (personal communication, September 11, 2008). For instance, they offer an introductory research methods course, but when students begin selecting a primary methodology for their dissertation project, they are encouraged to take additional methods courses in anthropology, education, or psychology.

Even when a faculty is large, mature and offering a large array of courses, some departments still find themselves unable to provide enough diversity for students. Tom Warren pointed out that at Oklahoma State, they teach 19 courses at the undergraduate and graduate levels, and all but two of those can be taken for graduate credit. The range of student interests, however, still leaves them with courses the English Department faculty couldn't teach; one recent example was a management course that, understandably, could not be found inside the department. Therefore, Oklahoma State allows any course outside the department as long as it is approved by the student's committee and the Graduate College. Indeed, Oklahoma State only requires that students take one pre-dissertation class: Introduction to Research. Every other course the students take are electives, none of which must be in the English Department. Most courses tend to be from the English Department, of course, but their flexibility has served students well, as we will describe later (T. Warren, personal communication, September 18, 2008).

### ***Definition of the Field***

A program may be initially forced to offer cognate courses as options for students, but many larger programs that could potentially cover their administrative needs still allow students to take courses outside their home departments. As we spoke to program administrators, we began to see that this allowance was due largely to the way we view our field. As long as there have been technical communicators, there have been attempts to define technical communication. We described previously some of the difficulty of these attempts, and there remains today much disagreement over exactly what we're talking about when we talk about technical communication. One commonality, though, among nearly all the definitions we've encountered is what technical communication is not: it is neither simple nor narrow, and many of our interviews revealed the practical consequences of this belief. Texas Tech, for example, which had to allow students to go outside the department to avoid "administrative suicide," still allows, even encourages, students to take at least a few cognate courses. Carter commented that "we still believe that we don't have all the answers—the 'field,' as we call it, is so broad and has such a wide umbrella that's happy to embrace other things, that maintaining outside courses as good things seems very reasonable." Loel Kim told us that the University of Memphis also supports this notion of a "wide umbrella" as they encourage students to learn research methods from researchers across campus. They noted that students have taken programming courses in the computer science department and typography from the art department, coming away better prepared to approach their dissertation research.

Interdisciplinarity is another common theme in technical communication definitions, and it came up as an important part of several program rationales for allowing cognate courses. Roberta Trites, Director of Graduate Studies at Illinois State, noted that the broadening of English Studies generally is encouraging this expansion: "Our definition of the English Studies model is so rooted in our commitment to intradisciplinarity within the field of English that it would seem a bit hypocritical for us to assume students can't gain anything from courses taken interdisciplinarily." Their emphasis on interdisciplinarity is department-wide: they have had students take courses in psychology, art, music, history, Spanish, and French as they seek to stabilize the foundation of their PhD work (R. Trites, personal communication, September 14, 2008). Rachel Spilka at the University of Wisconsin–Milwaukee also that their goal is to provide students with "the chance to develop a strong interdisciplinary education." They encourage technical communication PhD students to take courses in other programs within the English Department (e.g., rhetoric, linguistics, creative writing, and film.) and outside the department. They note that they have had students take courses in psychology, sociology, communication, business, design, and computer science. They believe this allowance is giving students a "broader knowledge and scope of insights" that is serving them well as students and later as professionals (R. Spilka, personal communication, September 9, 2008).

### ***Application of the Degree***

The final consideration for allowing students to take cognate courses is less administrative or conceptual than it is practical: the courses help students get jobs. Although many programs are encouraging students to specialize ever more narrowly, especially at the graduate level, many administrators we spoke to noted the value of technical communication graduates in remaining broadly knowledgeable. Scott Sanders of the University of New Mexico mentioned that, while a "tight focus" is beneficial, a "broad base of experience" has been particularly helpful for UNM students on the job market: "Professional writers in the workplace may find a niche over time, but for much of their careers they will range over the varieties of work that are done in large organizations—broad educational experience helps them prepare for broad work experiences to come." New Mexico has placed many students in Sandia and Los Alamos National Labs, and they pointed out that UNM students have tended to "find themselves moving around those large organizations quite a bit in their careers." The broad base of experience they encourage with cognate courses has prepared them to be successful in these variable work environments (S. Sanders, personal communication, September 16, 2008).

A variety of educational experience can also help prepare our students for a variety of professional opportunities. Tom Warren noted that Oklahoma State's

last three PhD graduates have gone into academia, but several PhD students before them went into industry; the only way for us to help our students build their credibility for either situation is to allow them to take courses outside the English Department. Rachel Spilka also believes cognate courses have helped UWM students become more marketable for a variety of careers as they gain experience outside a single department. Even for those students planning to stay and teach in English Departments, Spilka noted that the experience of the cognate courses helps them become better teachers: So many of our technical communication students come from other departments, we are more effective if we approach the classroom with some experience with outside perspectives.

### ***Why Not Require?***

With so many reasons given for allowing, and even encouraging, students to take courses outside the home department, we found ourselves wondering why these programs do not simply require cognate courses. Spilka noted that the University of Wisconsin–Milwaukee has students with a variety of backgrounds, some less prepared for study in technical communication than others: “Some MA students come to us with a specialization already, but little background in professional writing and technical communication . . . our goal is for them to take as many courses in our own field as possible, so that they can establish clear and thorough foundational knowledge in our field. We don’t want students to take courses outside our department if they fall into this category” (R. Spilka, personal communication, September 9, 2008). One of us was in a similar situation at the beginning of his master’s program: having come from a bachelor’s program in physics, he needed to focus on building an English background. He took extra literature and rhetoric courses and never left the English Department in doing so. By allowing, but not requiring, cognate study, these programs are anticipating some students who will need a broad course of study and some students who will need to strengthen their English backgrounds.

### **Requiring Cognate Study**

Of the 22 PhD granting programs we investigated, our research revealed that six schools require that courses be taken outside the department. Not surprisingly, rationale for this requirement generally falls into the same three general areas as those discussed for the schools that simply allow courses to be taken. Differences in motivation in these areas become apparent, however, with regard to how program designers and administrators account for their requiring cognate courses. The order in which we discuss these areas changes somewhat in accordance with our observations that those schools requiring cognate courses are generally newer programs. Their more recent establishment

has afforded them the luxury of observing, thinking through, and perhaps even experiencing firsthand what has worked in pioneering institutions. Programs that require cognate courses, based on our interviews, seem to develop curricula by first conceptually defining the field—as well as that development can be done given its interdisciplinary nature. After such definition, these programs may identify their available resources, many of which are found outside their home departments, to pinpoint the best possible administrative and instructional approach, which, based on their conceptual definitions of the field, necessarily includes scholarship across disciplines. Finally, in both the philosophical and practical application of the degree, a distinguishing feature of departments requiring cognate courses seems to be how they place a critical value on emphasizing—and, therefore, requiring—interdisciplinary scholarship. The next sections discuss our findings for these six programs.

### ***Definition of the Field***

Regarding how a program defines its conceptual development, it is instructive to remember that many programs are situated within a strong rhetorical foundation. The conceptual shaping of doctoral studies, then, becomes a strong philosophical consideration. Paul Heilker, Co-director of the PhD in Rhetoric and Writing at Virginia Tech, a recently minted doctoral program in technical communication and one that requires outside courses, stressed that “Rhetoric is multidisciplinary, and a complete study demands outside study.” Borrowing a classical rhetorical notion, those programs that stem from programs or professors with a tradition in rhetoric understand that much of professional communication is finding and adapting the best available means for persuasion, and ultimately understanding and meaning. This philosophical direction for conceptually defining what a PhD program should be is illustrated in Heilker’s further comment: “Fully understanding ancient rhetoric texts, for instance, requires a study of classic languages so the texts can be read in the original Greek or Latin. Communication Studies of Science and Technology Studies can also provide this necessary background” (personal communication, September 10, 2008). Scholars at these schools would maintain, further, that as we prepare PhD students to contribute across a wide array of fields and disciplines, those students do indeed need to search out the *best available means* by taking outside courses to become confidently conversant in specific fields (e.g., environmental planning courses to understand environmental rhetoric, management and human resources seminars to better understand organizational rhetoric, and computer sciences classes to gain insight into the intricacies of the rhetoric of artificial intelligence).

Although this philosophical undercurrent may, in many cases, lie in rhetoric, its influence has equally been felt as a matter of continuing precedence as

new generations of PhDs have begun to develop programs. Kelli Cargile Cook and Mark Zachry, designers of the program at Utah State University, for example, acknowledged that in their program conceptualizing the value of relevant rhetorical perspectives available with outside courses to provide “knowledge in a specialized field related to their research.” As philosophical as that decision was for them, they also acknowledged the power of precedence: “At the time we wrote the [program] proposal, [we] . . . had recently graduated from programs . . . that required doctoral students to take courses in other departments. We gained from these experiences and decided to follow the lead of these institutions” (K. Cargile Cook, personal communication, September 9, 2008). Coincidentally, as Cargile Cook indicated, their decision to require cognate courses reflects the luxury of observing, thinking through, and even experiencing firsthand the process at already established programs at other institutions.

### ***Administration of the Program***

Conceptually defining a program to follow rhetorical imperatives or even precedent naturally leads designers to program administration considerations. These considerations are the practical issues (including not only a program’s original design and its continued administration, but also those recurring decisions about course offerings that maintain a program’s viability) that must be addressed relative to what resources are available at a school and within a department in which the program’s concept and plan is put into play. As would be expected, each school we surveyed faces its own set of dynamics and internal issues, needs, and protocol. Some programs, such as Virginia Tech, allow students to transfer MA credits. This approach, in effect, fills some of the more basic courses up front, thus allowing the “students to spend more of their PhD coursework on their primary and secondary areas, rather than simply fulfilling required coursework,” outlined Heilker. We recognize, as does Virginia Tech, that not all PhD students in professional communication will have received a masters in rhetoric and writing—or even more broadly, English—but such an approach both promotes flexibility and creates a culture of interdisciplinarity. Tison Pugh, Director of the PhD Program in Texts & Technology from University of Central Florida echoed the need for interdisciplinarity and that students be empowered by such an approach because it brings to the dissertation different perspectives. More importantly, in Central Florida’s case, he said, that when they were establishing the program, they had to set themselves apart from the traditional English Literature PhD so common in the Florida system. Consequently, they focused on texts and technology and emphasized interdisciplinarity (T. Pugh, personal communication, September 16, 2008). Utah State experienced similar needs setting up and maintaining its PhD program as the only doctoral

degree offered in its English department, and, not coincidentally, the only PhD specifically in the theory and practice of professional communication in the Utah system.

In addition to (or, perhaps, in consideration of) creating sustainable program requirements, program designers who require cognate courses have recognized administrative value in pushing students beyond the confines of their own departments. Those programs that allow or even encourage outside study recognize the value of elective courses for creating valuable PhD candidates, a task that students undertake in cooperation with faculty. As co-USU program designer Mark Zachry, now at the University of Washington, explained, “It requires students [not faculty] to formalize thinking about their electives” (personal communication, September 26, 2008). In essence, the requirement initiates intentional planning by students themselves—it moves students to purposefully think about broadening their knowledge base while deepening their individual scholarship.

As students plan, intentionally, their courses of study, they also engage in assistantships and internships. Moreover, they fill their committees, whose members help cultivate emerging scholars. Several program designers have found that requiring students to take cognate courses helps them identify experts in compatible fields outside the department, which, in turn, helps both faculty and students facilitate programs of study. This approach pushes students to identify experts from compatible fields in other departments outside members on their dissertation committees as well as form a network to find research assistantship and internship opportunities. Relative to requiring outside, or interdisciplinary coursework, Pugh also noted that “Our program is interdisciplinary because we are preparing students to work in both academia and industry/business. [This] approach provides students a broader perspective” (personal communication, September 16, 2008). The value of requiring students to think purposefully about how electives fit into their programs of study and research direction seems apparent. If pushing students to think deliberately about courses they take outside the department to promote flexibility, self-accountability, and broad interdisciplinary perspectives, which influences intelligent scholarship by facilitating entrance into academic networks, requiring cognate courses would seem strategically and administratively prudent.

### ***Application of the Degree***

Whether practical, philosophical, or political, a focus on interdisciplinarity appears to be at the center of programs that require outside courses. Indeed, it seems to be a fundamental difference in thinking about PhD program design and whether cognate courses should simply be allowed or come with a mandate.

It also appears that the application of the approach, or how the requirement of cognate courses is used to empower a vision of interdisciplinarity, is the key difference from those programs that simply allow or encourage them (and, incidentally, many programs that allow outside coursework also stated that they strongly encourage them). Thus, to apply interdisciplinarity necessitates outside coursework, which, according to the programs that fall in this category, presents a compelling argument for their requirement.

Without a doubt, requiring students to network and learn outside their home department takes them out of their comfort zones. Often, doctoral students in the field come straight from master's programs with little to no experience in the worlds of business or industry. That absence of workplace experience, however, can certainly be compensated for as students look beyond the halls of an English department for marketplace perspectives. Virginia Tech's Heilker may have said it best when he suggested that "pushing students outside their comfort zones is a good thing, and it helps prepare students for a variety of faculty positions, especially at smaller schools where they might be asked to teach a variety of courses." He also pointed out that this capacity for interdisciplinarity helps doctoral students see the academy more broadly. As we work with students pursuing research programs in a variety of different directions, this broad view will be an important asset.

Coming full circle from defining the field and how programs can and should prepare scholars to enter it, moving students out of comfort zones and enabling them to see the academy in a broader scope accomplishes a program's *raison d'être*. It behooves us to anticipate where students (at any level, undergraduate or graduate) are going to be once they leave our institutions and project where they might be in one, five, or ten years from now. On another pragmatic note relative to application, Cargile Cook, now at Texas Tech University, explained, "Interdisciplinarity is even more important for today's PhDs than it was when I graduated in 2000. Having depth of knowledge in professional and technical writing and breadth across one or more other disciplines increases graduates' ability to serve on cross-functional teams and work with specialists in other fields" (personal communication, September 9, 2008). It may also behoove academics in this field to think briefly about the last several job postings they have seen in rhetoric, composition, and technical/professional communication (whether in academia or the marketplace) and then think about not only the preferred but also about the required skills listed in those job postings. The interdisciplinarity principle and its present and future application presents another compelling argument for requiring outside courses.

According to Bernadette Longo, Director of Graduate Studies at the University of Minnesota, the decision to design that program with the requirement

to take outside classes was consistent with the designers' "belief that people in rhetoric, scientific, and technical communication need to have content area expertise in order to practice the RSTC" (personal communication, September 13, 2008). In other words, it may not be enough in today's marketplace and academic arena to be just a rhetoric guru, or an excellent writer, or an excellent editor, or an excellent designer, or a usability expert. Taking courses outside the department is a key ingredient that makes successful PhD students in this field successful beyond the dissertation by providing knowledge both in breadth and depth.

As a peripheral but complementary commentary on the merits of mandating interdisciplinarity, Thomas Friedman (2007), in *The World Is Flat: A Brief History of the Twenty-first Century*, illustrates a real need and plausible call for requiring coursework outside a home department by describing how Georgia Tech recently redesigned its computer science major. He explained that students must take two "threads" out of nine possible threads that include "Computing and Intelligence, Computing and Embodiment . . . Computing and People, Computing and Media . . ." Friedman explained further, "Each thread is a combination of computing with another field, producing a synthesis of knowledge." Finally, Friedman cites a thread's course description (and we will replace the word thread with the word interdisciplinarity),

[Interdisciplinarity] represent[s] a departure from a vertically oriented curriculum whose goal is the creation of students with a fixed set of skills and knowledge . . . [Interdisciplinarity] is a fundamentally horizontal idea whose goal is to give students the broad collection of skills and learning experiences they need to thrive in the globally competitive Conceptual Age. (pp. 327–328)

Such a synthesis of knowledge that results from requiring technical communication PhD students to enroll in classes outside their home departments would surely pay dividends to both of them individually as scholars and instructors as well as to the future of the field generally.

## **Conclusion**

The sudden growth of doctoral programs in professional communication has led to new program administrators around the country rethinking how best to structure curricula for PhD students who will occupy important positions in both industry and academy. The reality of today's interdisciplinary workplace makes this issue even more compelling. A broad, cross-functional perspective is a must in today's collaborative, global workplace. This reality, then, underscores the importance of preparing students to meet interdisciplinary workplace

expectations. One strategy for providing the broad background necessary for students is allowing or requiring cognate courses to make up a portion of the PhD coursework. Cognate courses can fill an important role in doctoral students' training because they give students the opportunity to view professional communication through the lens of other disciplines, and vice versa. More and more, the interdisciplinary community is beginning to understand the value of crossing traditional boundaries to gain a broader perspective. By reaching broader as well, professional communication programs can take advantage of the strengths other fields of study have to offer students.

By exploring the various approaches to the cognate course by PhD programs in technical and professional communication, we were able to more fully understand an institution's rationale for discouraging, allowing, or requiring cognate courses. There are compelling arguments for each position regarding cognate courses, but there appears to be something of a consensus settling on at least allowing students the option of taking courses outside the home department. Twenty-one of the twenty-two PhD programs allow or require cognate courses, and the justification for these two positions touch on similar themes: the practicality of running a PhD program, the interdisciplinary nature of our field, and the marketability of students. The question, then, is whether to specifically require or simply allow students to enroll in cognate courses, and this decision seems to hinge on an evaluation of the possible risks of the two options. The risk of requiring cognate courses is embodied in the students who will come to technical communication from another discipline needing to build their background in English studies. This need is clearly a potential problem, but as Rachel Spilka noted (and as our own experience illustrates), it is largely an issue in master's programs, when students may be migrating to technical communication from scientific disciplines. Indeed, we would argue, this is one of the jobs of master's programs, to provide the background in English studies a potential PhD student would need. It seems unlikely that a student would be prepared for a PhD program in technical communication without a solid foundation in English or writing studies a master's program would provide. Thus, the risk of requiring cognate courses seems rather small.

The risk of simply allowing cognate courses, on the other hand, is much more significant. As many program administrators and instructors know, students too often take the path of least resistance. Given the choice, some students may not take advantage of the cognate course. It's much easier and more comfortable to stay in one's own department. This choice may do a disservice to students, by making them less marketable, and to the profession, by making it less interdisciplinary. Even if only 10–15% of students choose to stay inside their home department, that is one of every 7–10 students who might have

a more difficult time getting a job and a more limited perspective once they have it. There is certainly virtue in letting students make choices for themselves, but we believe there is a significant enough upside to taking cognate courses (along with almost no downside) that professors and program administrators owe it to students to step in and make the cognate course a requirement.

## Appendix

### Cognate Course Requirements in Professional Communication Doctoral Programs

	Institution	PhD Degree
<b>Discourage</b>	Purdue University	Rhetoric & Composition
<b>Allow</b>	Carnegie Mellon University	Rhetoric
	East Carolina University	Technical & Professional Discourse
	Illinois Institute of Technology	Technical Communication
	Illinois State University	English Studies
	Iowa State University	Rhetoric & Professional Communication
	Memphis, University of	English
	Michigan Technological University	Rhetoric & Technical Communication
	New Mexico, University of	Rhetoric & Writing
	New Mexico State University	Rhetoric & Professional Communication
	Oklahoma State University	English
	Pennsylvania State University	English
	Rensselaer Polytechnic Institute	Communication & Rhetoric
	Texas Tech University	Technical Communication & Rhetoric
	Washington, University of	Technical Communication
Wisconsin-Milwaukee, University of	English	
<b>Require</b>	Central Florida, University of	Texts & Technology
	Minnesota, University of	Rhetoric & Scientific and Technical Communication
	North Carolina State University	Communication, Rhetoric, & Digital Media
	North Dakota State University	English
	Utah State University	Theory & Practice of Professional Communication
	Virginia Polytechnic Institute and State University	Rhetoric & Writing

## Acknowledgements

We express our most sincere gratitude to survey participants and their institutions for time used to help us understand their respective programmatic motivations. We also thank the anonymous reviewers for their helpful critique, and we appreciate Karla Saari Kitalong for her enthusiasm about our research and thoughtful feedback in revising this article.

## References

- Allen, Jo. (1990). The case against defining technical writing. *Journal of Business and Technical Communication*, 4(2), 68–77.
- Bammer, Gabriele. (2005). Integration and implementation sciences: Building a new specialization. *Ecology and Society*, 10(2). Retrieved February 26, 2010, from <http://www.ecologyandsociety.org/vol10/iss2/art6/>
- Bernhardt, Stephen A. (1995). Teaching for change, vision, and responsibility. *Technical Communication*, 42, 600–602.
- Brew, Angela. (2008). Disciplinary and interdisciplinary affiliations of experienced researchers. *Higher Education*, 56, 423–438.
- Britton, W. Earl. (1975). What is technical writing? A redefinition. In Donald H. Cunningham & Herman A. Estrin (Eds.), *The Teaching of Technical Writing* (pp. 9–14). Urbana, IL: NCTE.
- Clark, Dave & Andersen, Rebekka. (2005). Renegotiating with technology: Training toward more sustainable technical communication. *Technical Communication*, 52(3), 289–301.
- Connors, Robert J. (1982). The rise of technical writing instruction in America. *Journal of Technical Writing and Communication*, 12, 329–351.
- Friedman, Thomas L. (2007). *The world is flat: A brief history of the twenty-first century*. New York, NY: Picador.
- Frodeman, Robert & Mitcham, Carl. (2007). New directions in interdisciplinarity: Broad, deep, and critical. *Bulletin of Science, Technology, and Society*, 27(6), 506–514.
- Hart-Davidson, William. (2001). The core competencies of technical communication. *Technical Communication*, 48(2), 145–155.
- Johnson, Robert R. (1998). Complicating technology: Interdisciplinary method, the burden of comprehension, and the ethical space of technical communicator. *Technical Communication Quarterly*, 7, 75–98.
- Klein, Julie T. (1998). *Crossing boundaries: Knowledge, disciplinarity, and interdisciplinarity*. Charlottesville, VA: University of Virginia Press.
- Klein, Julie T. (2004). Prospects for transdisciplinarity. *Futures*, 36, 515–526.
- Lélé, Sharachchandra. & Norgaard, Richard B. (2005). Practicing interdisciplinarity. *BioScience*, 55(11), 967–975.
- Toynton, Robert. (2005). Degrees of disciplinarity in equipping mature students in higher education for engagement and success in lifelong learning. *Active Learning in Higher Education*, 6(2), 106–117.

Wahlstrom, Billie. (1997). Designing a research program in scientific and technical communication: Setting standards and defining the agenda. In Katherine Staples & Cezar Ornatowski (Eds.), *Foundations for teaching technical communication: Theory, practice, and program design* (pp. 299–315). Greenwich, CT: Ablex Publishing.

---

### **Author Information**

David M. Christensen is a proposal development manager (Mechanical & Aerospace Engineering Department) and a doctoral candidate in Theory and Practice of Professional Communication (English Department) at Utah State University. His research focuses on genre and social systems surrounding academic grant proposal writing.

Keith Gibson is an assistant professor of technical and professional communication and director of the PhD program in Theory and Practice of Professional Communication at Utah State University. His research focuses on the rhetorical strategies of scientific discourse communities, with a special emphasis on the public policy implications of those strategies.

Laura Vernon is a doctoral student at Utah State University in the Theory and Practice of Professional Communication program. Her research interests include environmental rhetoric, public policy, and organizational communication. She teaches undergraduate professional and technical writing courses.

# **Authentic Assessment in Technical Communication Classrooms and Programs**

## **Proposal for an Integrated Framework**

**Han Yu**

*Kansas State University*

**Abstract.** Given the disconnections between technical communication classroom assessment and professional workplace assessment, the author suggests that technical communication programs learn from workplaces' best practices to develop authentic classroom assessment and better prepare students for workplace performance. Authentic classroom assessment also generates meaningful student learning evidence, which can be used in outcome-based program reviews for us to reach more comprehensive and accurate assessment of programs' education success. The article details how this integrated, two-tier framework can be carried out at both the classroom and program levels and discusses its programmatic benefits.

**Keywords.** authentic learning environment, program review, technical communication, workplace practice, writing assessment

**A**n objective important to technical communication programs is preparing students for successful writing and performance in the workplace. This objective requires, as Charles Bazerman (1998) and Ann Blakeslee (2001) wrote, that we engage students in authentic learning environments. Certainly, authenticity, as both authors reminded us, is a subjective construct rather than an objective entity there is only perceived, no absolute, authenticity. But generally, we may consider a learning environment authentic when it presents students with certain tasks, contingencies, opportunities, and obstacles they may one day encounter in actual workplaces.

### **Authenticate Classroom and Program Assessment to Promote Student Learning**

To build such a learning environment, our classes and programs have used client projects, service learning, and internships, among other approaches, to engage students in realistic writing and communication tasks. But these tasks,

---

*Programmatic Perspectives*, 2(1), March 2010: 42–58. Contact author: <hyu1@ksu.edu>.

I suggest, compose only half the authentic learning environment; the other half should be concerned with authentic assessment. As Patricia A. Scanlon and Michael P. Ford (1998) pointed out, when we discover the importance of integrating student learning with real-world performance, we must also answer the question of how such integrated activities can be evaluated. How do we do that? The writings of Charles Bazerman (2003) and Brian Huot (1996) provide important clues. It is by understanding assessment, Bazerman (2003) wrote, we can understand the knowledge, skills, and experience essential to successful performance. So to prepare students for the workplace, we should first understand how workplaces assess employees and their work, and what knowledge, skills, and experience they value. Furthermore, writing assessment, Huot (1996) emphasized, must be context-sensitive and “be concerned with creating assessment procedures that establish meaningful contexts within which teachers read and assess” (p. 559). So when we give students assignments that reflect workplace realities, we should also consider assessing those assignments in a manner reflective of workplace realities.

Many teachers are doing or advocating such authentic assessment: Khushwant Pittenger, Mary C. Miller, and Joshua Mott (2004) combined classroom and industry standards to teach students presentation skills; Sam Dragga (1991) questioned the relevance of facilitative commentary traditionally preferred by English teachers and suggested learning from industry’s more direct commentary; Srivatsa Seshadri and Larry D. Theye (2000) found that business professionals judge writing more on substance and less on style and suggested that teachers learn from such standards; and Bob Bergland (1997) proposed that business writing teachers use the workplace performance review method to assess students’ small assignments.

Despite these meaningful studies and classroom experiments, individual efforts like these, I’m afraid, are not enough to make a cultural shift in professional and technical communication programs. Teachers who learn from workplace assessment for classroom use remain the extraordinary rather than the ordinary. A reason for this perspective could be a legitimate concern about transforming university education into commercial training if we are to align our practices with industry norms. But another important reason, I suggest, can be traced to how we assess educational success in program reviews. Traditional program reviews, Jo Allen (2004) argued, tend to address imperatives and generate information (such as “volumes in the library”) that do not indicate “whether students know and can exercise discipline-based wisdom and expertise at the conclusion of the studies” (p. 94). Likewise, Nancy W. Coppola and Norbert Elliot (2010) wrote that in traditional program reviews, “the really important questions remained unanswered—Did we really meet the program goals? What exactly were our... graduate students able to do?”

When program reviews do not actively and explicitly assess how programs prepared students for performance beyond the university, teachers will not be encouraged to go beyond the classroom norm to examine how graduates are assessed in the real-world. In turn, without individual teachers trying to understand and learn from workplace assessment, we miss out on important student learning evidence that can be used in program reviews. So the cycle continues. To break this cycle, technical communication programs should encourage teachers to learn from workplace assessment for classroom use and collect evidence from these classroom initiatives for program reviews. Such an integrated framework at both the classroom and the program level is what I propose in this article. In the following, I explain in detail how this framework works and what its outcomes are. But first, because readers may not be familiar with the gap between classroom assessment and workplace assessment—hence the need for learning about or learning from the latter—I tell Alex’s story.

## **Disconnections Between Classroom and Workplace Assessment**

It’s Alex’s second day on the internship.<sup>1</sup> Shortly after arriving, Sarah, his supervisor, asks to see him. “Our project members,” Sarah said, “complain that the office wireless network doesn’t work well. I want you to talk to the folks and ask what is bothering them and what they want. Write up what you find and send it to me. Any questions?” Alex knows wireless networks well and this task sounded simple enough. He shakes his head “no” and leaves Sarah’s office. But as soon as Alex sits down and tries to get started, he realizes he isn’t given any specifics: how long is this “write-up” supposed to be? Should he document what everyone says? Should it be in a report format? Is there a format to follow? If only Sarah had an assignment sheet like those writing teachers distribute, Alex thinks.

Sarah is convinced that a new network service provider (ISP) is needed and asks Alex to research the local providers. Alex locates three ISPs and researches their backgrounds, products, and services. He also discovers from his colleagues that network speed and reliability are the two features most important to them. Happy with his findings, he writes a recommendation report to Sarah, confident that he did a good job. It isn’t long before Sarah emails him, although not exactly with the compliment he expects: “Alex, I’m half way through the report. How come you didn’t talk more about the cost? That is always important.” Sarah seems upset, Alex thinks. But the other folks think—and I do too—the quality of service is more important. Too bad Sarah does not. Alex sighs.

---

<sup>1</sup> Alex is not a real person but a composite persona. His stories here are based on experiences of student interns and stories told by workplace professionals.

Alex has been interning for several months when one day, Sarah calls him and several other employees into a conference room to inform them that Steve is in the process of his annual performance review. As part of the process, they the team members will be asked to review Steve's performance. Sarah gives each person a form that asks for ratings and comments on several performance goals. Walking out of the conference room, Alex sees Steve busily going through some old paper work. What is *he* given to do? Alex thinks. And what should *I* do about that review? I have some complaints about Steve, but he has been nice to me, and I don't want to upset him—especially if he knows that I will be evaluating him.

Alex's quandaries point to some apparent disconnections between the assessment and evaluation in classroom and professional workplace practices. Alex is used to receiving detailed assessment criteria for classroom assignments and does not know that in the workplace, explicit formal criteria often may not exist prior to a task. As I (2008) discovered in a previous study of workplace writing,

when there are no specific requirements to follow, people rely on informal interactions to gain better understandings of a task. These interactions may take place during meetings, a casual sitting down together, or hallway and phone conversations. With these interactions, employees try to establish common expectations with their peers and the supervisor so they will not be held accountable for requirements they are not aware of. (p. 273)

If we inform students of this reality or, even better, design ways to engage students in researching and developing assessment criteria, we can better prepare students for the kind of assignments Alex was given.

Alex is unaware that unlike in the classroom, workplace assessment and evaluation are often a collaborative and negotiated process between the employee and the supervisor. Unlike the university instructor who "is designated as the authority for the duration of the interaction... [workplace] roles are more fluid and indeterminate: there are new oldtimers and old oldtimers; fresh newcomers and more seasoned newcomers" (Freedman & Adam, 2000, p. 49). Working together on specific tasks, a "newcomer and [an] oldtimer are often on the same side: they are working together on a task that will be evaluated by some outsider" (Freedman & Adam, pp. 50–51). Although Alex is only an intern and thereby a newcomer, the research he has done on this task warrants, and indeed, obligates him to speak up so that together, he and Sarah (the oldtimer) can produce the best work, possibly for review by someone from higher management. If we inform students of such workplace realities or, better, invite students to participate in the assessment and evaluation process, we help them

see themselves and assessors as co-investors and see performance feedback as an invitation for collaboration and improvement, as opposed to disagreeable judgment. In this way, students may not be as anxious as Alex when receiving feedback and are more likely to voice opinions, both of which can help them perform better in the workplace.

Finally, Alex is not familiar with the performance review method commonly used in professional workplaces (Murphy & Cleveland, 1995). The review often starts with employees establishing performance goals and collecting and submitting evidence of their performance. In particular, Alex hasn't participated in the 360-degree performance reviews that, in addition to the supervisors, involve peers and employees themselves as reviewers (Pfau & Kay, 2002; Church, 2000). Such practices help to emphasize group accountability (United States, 2006, p.4) and enhance employees' "self-awareness and subsequent behavior change" (Church, 2000, p. 99). If we inform students of these workplace practices and design similar collaborative assessment methods in the classroom, we help prepare students for important assessment and evaluation activities they may experience in future workplaces. To address these and other disconnections between classroom and professional workplace assessment practices, I propose the following authentic assessment framework.

## **Authentic Classroom Assessment**

*Authentic assessment* is a term not referenced often in technical communication—a search in literature yields little published discourse. But it has been frequently written about in high-school education (DeCastro-Ambrosetti & Cho, 2005; Kohn, 2006) and fine arts education (for instance, Dorn, Madeja, & Sabol, 2004; Fitzsimmons, 2008). These scholars define authentic assessment in similar terms: it requires students to use relevant knowledge and skills to solve realistic problems (DiMartino & Castaneda, 2007); it is contextually realistic and reflects the way information or skills are used in the real world (Svinicki, 2004). Given our field's lack of familiarity with this concept, I use a question method to describe how authentic assessment can be applied in technical communication classes.

### **What Are Some Authentic Classroom Assessment Methods, and How Do We Design Them?**

Because authenticity is a subjective construct, whether assessment is deemed authentic depends on a pre-identified situation with which to compare (Gulikens, Bastiaens, & Kirschner, 2004). Technical communication programs aim, among other things, to prepare students for professional workplaces, so workplace assessment practices can be used as a pre-identified situation to design authentic assessment in the classroom. Some teachers have used such practic-

es without necessarily calling their assessment methods *authentic*. For example, in an earlier study, I (2008) discussed how technical writing teachers can learn from workplace practices by having students develop individualized criteria that reflect their own writing, rather than prescribing uniform criteria that may not be context-sensitive. Mary Garay (1995) designed a classroom corporation and played the role of a “boss” instructor. This setup enabled students to converse and negotiate with the teacher regarding assignments and assessment, which, to some extent, resembled the interactions between workplace employees and supervisors. Bergland (1997) learned from the workplace performance review method to holistically evaluate students’ small assignments such as style exercises, practice memos and letters, and peer critiques rather than grade each assignment individually.

Besides these more innovative methods, our existing classroom assessment practices can be modified to better connect with workplace realities. Today’s workplaces often use the 360-degree performance review for which supervisors, peers, and external clients as well as the employees themselves jointly participate in employee assessment. By obtaining feedback from multiple sources, these reviews help to ensure assessment reliability and validity (Rynes, Gerhart, & Parks, 2005). Although teachers will play important roles in classroom assessment, to promote multisource assessment in the classroom, we can collaborate with project clients or community business partners to assess student work (Dillon, 1997; Taylor, 2006). We can also more actively involve students in self-assessment by asking them to set individual development goals for a given class. Because they will be involved in this goal-setting process, students are more likely to view those goals as relevant and realistic, and are therefore more likely to actively and narrowly assess their progress rather than write generic, lukewarm self-assessment essays. Student peers can also more actively participate in classroom assessment and evaluation. They may not only respond to each other’s work but also evaluate group members. In Marilyn Dyrud’s case, peer evaluation contributed 30% of students’ final grades. Peer evaluation criteria can be adapted from existing literature, such as those from Robert Martinazzi (as cited in Dyrud, 2001), and contain common criteria such as attending team meetings, helping other team members, and sharing group responsibilities. Or teachers may have students develop evaluation criteria that are more specifically related to their tasks.

## **What Are the Outcomes of These Authentic Classroom Assessment Methods?**

Generally speaking, there are two outcomes of authentic assessment: (a) to improve students’ performance on classroom assignments and their classroom

learning; and (b) to prepare students for transition into the workplace. For instance, in my study (2008), students developed individualized assessment criteria for a report assignment and suggested that the process of identifying and articulating assessment criteria helped them learn the report genre, to analyze writing contexts, and to understand the requirements for their reports. Bergland (1997) concluded that classroom performance reviews encouraged students to invest in ungraded, small assignments, helped students understand course expectations, and prepared them for future performance reviews, a common practice in professional workplaces. Finally, drawing from experiences with both dysfunctional and successful student groups, Dyrud (2001) demonstrated how peer assessment and evaluation helped students identify and correct annoying group behaviors early on, be more productive working together, and as a result, produce better collaborative work. The interpersonal and collaboration skills developed throughout this process, Dyrud concluded, helped students cope with workplace tasks for which team work is often the norm.

### **Which Methods and How Many Should Teachers Try to Use in a Single Class?**

Individual teachers must decide which assessment methods to use in a particular class based on their own classroom and program contexts. First, teachers need to consider the scope of their classes and determine how much time and which resources are available. Some methods, such as the joint client and teacher assessment Summer S. Taylor (2006) described, take extensive planning, are time-consuming, and require more institutional support. By contrast, engaging students in active peer evaluation or self assessment requires much less time and fewer external resources. Second, teachers need to examine the core competencies they teach and determine which authentic assessment methods are most relevant. For instance, a class that focuses on writing skills can have students develop individualized writing criteria to enhance their understanding of audience, purpose, and context, whereas such a method may not be as relevant in a visual rhetoric class. Third, teachers need to consider student backgrounds and comfort levels working with unfamiliar assessment methods. Lower-division students, for instance, may have a more difficult time negotiating the multiple and different assessment feedback they obtain from project clients and teachers because they see both groups as authority figures. As a result, students may experience more frustration than learning.

### **Is Promoting Authentic Assessment a Duplication of Workplace Practices?**

I want to emphasize that by “authenticating” classroom assessment, I do not suggest we duplicate everything industry does. As Murphy and Cleveland

(1995) pointed out, workplace assessment has its own drawbacks. In performance reviews, for instance, reviewers may give inflated ratings because they want to garner the goodwill of a team member or boost employee morale. So, workplace practices are by no means the golden standard. If anything, workplaces may enhance their practices by learning from the more reflexive theory-based classroom assessment. But that topic is for a different article.

What I suggest then is that teachers invest in learning more about workplace assessment, as we have in learning about workplace writing and communication acts—by conducting original research at various work sites, reviewing literature on the topic, and having conversations with workplace professionals or other teachers with experience in workplace assessment. Knowing what workplace assessment practices are like, teachers can draw from their own pedagogies to examine which practices are promising for classroom use, what modifications may be needed, and which methods are inappropriate or altogether problematic. When introducing workplace assessment methods into the classroom, we may also share with students these methods' possible drawbacks in reality so students learn not only to adapt to existing workplace activities but also to critically examine the workplace status quo.

## **Connect Authentic Classroom Assessment with Program Reviews**

To promote authentic assessment in technical communication classrooms and commit teachers to this pedagogical approach, there needs to be a cultural shift at the program level. This shift is arguably best initiated and manifested during program reviews when we decide the educational value of a program. If we connect authentic classroom assessment with program reviews, we send a clear message to teachers about the value of their efforts. How do we do this? The outcome-based program review model (Allen, 2004; Coppola and Elliot, in press) provides a possible solution. This model, as its name suggests, focuses on measuring student learning outcomes. In their chapter, Coppola and Elliot (in press) used this model to audit a professional and technical communication program. They identified six core competencies expected of program graduates (such as writing, editing and document design), provided descriptors for each competency and collected eportfolios as evidence for measuring student achievement. These measurements, Coppola and Elliot argued, supplement measurements of traditional variables such as institutional context and commitment or curriculum and instruction to provide a more accurate picture of the program's education success.

With this outcome-based review model, authentic classroom assessment can be meaningfully connected with program reviews. Simply put, authentic

classroom assessment activities will generate additional evidence that can reveal student learning outcomes and help us arrive at a more comprehensive and accurate picture of program success. In the following section, I detail the steps for this process using my institution's technical and professional writing graduate certificate program as a hypothetical example.

### **Step 1: Identify Student Learning Outcomes That Can Be Meaningfully Assessed Using Authentic Assessment**

The certificate program sets the following learning outcomes for its graduates: (a) practicing writing and editing; (b) learning multimedia literacy and document and visual design; (c) understanding rhetorical theories; (d) developing cultural and social awareness; and (e) engaging with current scholarship and research. Each outcome can, potentially, be assessed using evidence from classroom authentic assessment (for instance, through self-assessment and peer evaluation). But in the limited space here and for the ease of demonstration, I focus on the first, second, and fourth outcomes. These outcomes have a more obvious connection with workplace applications and demonstrate how a variety of classroom authentic assessment evidence is useful for program review.

### **Step 2: Describe Outcomes to Establish Possible Connections with Workplace Practices**

Working together, the program faculty should assign descriptors for each outcome. This step helps faculty establish a common understanding of these outcomes vis-à-vis authentic assessment, including what specific aspects should be included in outcome descriptions, and which of these aspects may be effectively assessed using the authentic assessment framework. The matrix in Figure 1 shows several descriptors for outcomes one, two, and four. It is important to note, however, that these descriptors are not comprehensive and that other descriptors may be identified to focus more on knowledge development rather than workplace application.

### **Step 3: Match Program Courses with Learning Outcome Descriptors**

Working together, program faculty should determine which courses target specific learning outcome descriptors. In the matrix in Figure 1, I used three courses from the certificate program as examples: *Studies in Technical Communication*, *Grant Writing*, and *Graphic Design and Illustration*. Shaded areas in Figure 1 indicate a possible interaction of the courses and the outcome descriptors they target for authentic assessment.

	Studies in Technical Communication	Grant Writing	Graphic Design and Illustration
<b>Writing and Editing</b>			
Ability to write for specific professional audiences, purposes, and contexts	Student-developed assessment Performance review		
Ability to work with fellow writers and editors in a documentation project	Peer assessment	Peer assessment	
<b>Multimedia Literacy and Document/Visual Design</b>			
Ability to learn different multimedia technologies required across workplaces			Self-assessment
Ability to work with fellow designers in a documentation project			Peer assessment
<b>Cultural and Social Awareness</b>			
Willingness and ability to work with local communities and non-for-profit organizations	Community partner/client assessment	Community partner/client assessment	

**Figure 1. Program Learning Outcomes, Program Courses, and Authentic Classroom Assessment Matrix**

### Step 4: Identify Proper Authentic Classroom Assessment

For this step, program faculty should start with the shaded areas, determining which authentic assessment methods may be used in each class to target a particular outcome descriptor. For instance, *Studies in Technical Communication* aims to, among other things, develop students’ ability writing for specific professional audiences, purposes, and contexts. To this end, the course requires students to complete a technical communication project of their choice that is applicable to their future workplaces. Because the project is open-ended, teachers may find it useful to have students develop individualized assessment criteria that reflect their own unique audience, purpose, and context requirements. By contrast, the *Grant Writing* course asks students to write proposals to funding agencies that have prescribed criteria and thus does not lend itself to using the student-developed assessment method. In this class, however, because students often write grant proposals on behalf of communities in need or not-for-profit organizations and because course objectives aim to develop students’ ability working with these parties, representatives from these com-

munities or organizations can work with the writing teacher to collaboratively assess student work.

As another example, because the Graphic Design and Illustration class cannot teach students all the software applications used in future workplaces, students need to develop the ability to learn new applications. A proper way to assess such ability is active student self-assessment. Students can be asked to research the potential employers' expectations and set learning goals based on those expectations in addition to their own knowledge base. Students can identify resources such as online tutorials and explore some unfamiliar software applications. Students will then write self-assessment reports to discuss their findings and reflect on their learning, for instance, what transferrable knowledge helped them navigate different software applications or what heuristics helped them approach unfamiliar software.

Certainly, instructors may choose to use more than one authentic assessment method to target the same descriptor. To assess students' ability writing for specific professional audiences, purposes, and contexts, teachers of Studies in Technical Communication may also assign students small case study assignments where they write for a variety of audiences, purposes and contexts.. These small assignments can then be holistically assessed using performance reviews to reflect students' overall performance and progress.

### **Step 5: Implement Authentic Classroom Assessment to Generate Learning Evidence**

The authentic classroom assessment identified in step 4, when implemented, will generate various evidence of student learning. Some of this will be direct evidence such as students' self-developed assessment criteria that exemplify their understanding of particular rhetorical situations, or students' self-assessment reports that indicate their learning progress. Others will be indirect evidence such as peer or client feedback that reflects student performance on specific tasks, their levels of professionalism, or their collaborative skills.

### **Step 6: Collect Evidence to Measure Student Learning Outcomes in Program Reviews**

During program reviews, instructors who have taught these three courses should collect the authentic classroom assessment evidence generated in Step 5—along with other traditional evidence such as student writing samples, syllabi, and assignments samples—and submit them to the program assessment committee. The committee should examine all evidence, produce an assessment report, and present its findings to program faculty for discussion. Faculty can then discuss the authentic classroom

assessment used in the program to identify areas for improvement and/or reinforce best practices.

### **But Why Do All These...?**

By now, some readers might question why we want to go through all this work collecting authentic classroom assessment evidence. If our goal is to measure student learning outcomes, why is evidence such as portfolios or other forms of student work not enough? Although I do believe programs should collect these more familiar types of student work as learning evidence, I also argue that authentic classroom assessment produces additional evidence that is revealing, and sometimes more telling, of students' learning outcomes, especially those connected to workplace expectations. For instance, to develop individualized assessment criteria for writing a formal report, students need to, more consciously at least, carefully analyze the reports' purposes, audiences, and contexts before identifying relevant requirements. If, for instance, the audience is likely to have expert knowledge, then a possible criterion might ask for a focused and concise explanation of the topic background; whereas if the audience is likely to have little prior knowledge, a corresponding criterion might ask for a thorough explanation of the topic background. The student-developed assessment instruments, then, are direct evidence of students' ability to analyze rhetorical contexts while their final reports are evidence of implementing rhetorical decisions. These instruments can therefore complement and help us interpret the report evidence. When students failed to do certain tasks deemed important, is it because they did not know how to approach it or they did not believe it was an important criterion? Because workplace tasks often do not have prescribed criteria and because employees participate in shaping those criteria (Yu, 2008), the student-developed assessment instruments are particularly telling evidence of whether programs prepared students effectively for their future workplace tasks.

As another example, when students engage in peer assessment and evaluation, the peer review feedback, comments, and evaluation they produce are evidence of their ability to identify positive and negative group behaviors and to negotiate group responsibilities. Although the group work students submit is useful evidence for telling us how many students produced satisfactory group work, the peer assessment and evaluation evidence helps us understand whether the satisfactory work was a result of all students working effectively in groups or only a few members completing the majority of the work. Conversely, although the group work can tell us how many students completed unsatisfactory group work, peer assessment and evaluation can tell us whether the unsatisfactory work was indeed a result of dysfunctional groups or simply poor writing and

research choices made by otherwise congenial groups. Given the prevalence of team work in the workplace, peer assessment and evaluation can be telling evidence of how our programs prepared students for their future workplaces.

## **Implications for Program Development**

The integrated classroom-program authentic assessment framework not only enhances student classroom learning, but also has positive implications for program development. When provided opportunities to understand and experience workplace assessment through authentic classroom assessment, students are better prepared for future workplace tasks. As such, we demonstrate to students as well as to industry stakeholders the value of technical communication education. Certainly, other educational methods such as client projects and internships also give students meaningful workplace exposure, but the authentic assessment framework has additional implications. As Brenton Faber and Johndan Johnson-Eilola (2002) argued, current models such as service classes and internships, although valuable, might result in collaborative work that is product-centered, for instance, students producing a manual for a client. True interactions, these authors believe, call for real changes “at the disciplinary, organizational, or even cultural levels” (p. 146).

The authentic assessment framework, I suggest, can help bring such cultural changes because it asks us to connect with industry in how we approach a fundamental element of our discipline and education: program reviews. As Kirk St. Amant and Cynthia Nahrwold (2007) advocated, new models of program reviews can offer mechanisms that help bridge our profession’s industry-practitioner branch and academic-educator branch—branches many scholars already admit are disconnected (Savage, 2003; Wahlstrom, 1997). I believe that the authentic assessment framework is one such promising mechanism: it urges us to redesign how programs assess knowledge production and dissemination in the university by understanding and possibly learning from how industry assesses knowledge uses and applications in the workplace.

Besides this overarching promise, the authentic assessment framework can lead to other value-added activities for technical communication programs, which can help persuade program administrators to invest in this framework. As Brenton Faber, Linn Bekins, and William Karis (2002) suggested, the return on investment (ROI) index is often biased against education because it generally sees education as “a corporate expenditure” (p. 309), and even when ROI

can display the returns generated by academic programs, [it] does not detail the quality of those returns, how those returns were

delivered, whether the process that delivered the returns is replicable, or whether the returns themselves add any significant value to the department or larger organization. (p. 312)

Instead of ROI, these scholars proposed a value-added approach to measure the “return” of education activities. This approach conceives educational activities as processes rather than static expenses or proceedings; it determines a program’s “core deliverables [that are] unique and valuable within the large university context” (p. 328) and uses them as benchmarks for determining whether programmatic activities add value to the university. For technical communication programs, Faber, Bekins, and Karis suggested the following value-added activities: teaching core knowledge, developing students’ leadership and management aptitudes, creating and maintaining portals between the university and workplace, sponsoring symposiums to feature scholars and practitioners, providing career advising and job placement, and developing affiliations with professional organizations (p. 324).

The authentic assessment framework can lead to several of these value-added activities. At the classroom level, authentic assessment helps with student learning outcomes, many of which are the core-knowledge activities programs intend to teach. At the program level, authentic assessment creates a portal where students experience and prepare for workplace activities and where workplace practitioners, by becoming co-assessors of student work, otherwise participating in classroom assessment, or participating in faculty’s workplace assessment research, can better understand and appreciate what happens in our programs. Through these portals, programs tighten their affiliations with professional organizations on and off campus, which can create more internship and job opportunities for students. Finally, when teachers research workplace practices to design authentic classroom assessment, they become better informed of workplace expectations and can thus give students better career advice, making them more competitive in the job market.

The end results of these efforts might very well include an increase in program ROIs: more students are attracted to technical communication programs and more workplace practitioners consider further education through degree or certificate programs. But this framework leads to more than financial returns; it also allows us to answer those important questions Faber, Bekins, and Karis (2002) asked: What is the quality of the returns? How were they delivered? Are they replicable? Why are they significant? In this case, we know that the returns came from a more authentic assessment framework and a better connection between education and practice, that we, while realizing the financial returns, enhanced student learning and program recognition, and that we may replicate the returns if we continue these efforts.

## Conclusion

In this article, I propose an integrated classroom-program authentic assessment framework. At the classroom level, teachers learn from workplace practices to design authentic assessment methods that can enhance student learning and better prepare students for future workplaces. At the program level, faculty and program administrators collect and examine the evidence generated by authentic classroom assessment to assess programs' educational success. Working together, these two levels can reinforce each other and help bridge technical communication theory and practice, educators and practitioners, and programs and workplaces. The implementation of such a framework can start with individual teachers researching, designing, and using authentic classroom assessment. Drawing from classroom experiences, the program faculty can refine these methods or choose to standardize relevant methods for particular classes. Finally, when these authentic classroom assessment methods become mature, evidence can be collected for program reviews and the lessons learned from the reviews can be channeled back to improve classroom practices.

## References

- Allen, Jo. (2004). The impact of student learning outcomes assessment on technical and professional communication programs. *Technical Communication Quarterly*, 13(1), 93–108.
- Bazerman, Charles. (1998). Editor's introduction. In Joseph Petraglia, *Reality by design: The rhetoric and technology of authenticity in education* (pp. ix–x). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bazerman, Charles. (2003). What is not institutionally visible does not count: The problem of making activity assessable, accountable, and plannable. In Charles Bazerman & David Russell (Eds.), *Writing selves/writing societies: Research from activity perspectives* (pp. 428–482). Fort Collins, CO: WAC Clearinghouse.
- Bergland, Bob. (1997). Incorporating performance reviews into the business writing classroom. *Business Communication Quarterly*, 60(4), 52–62.
- Blakeslee, Ann M. (2001). Bridging the workplace and the academy: Teaching professional genres through classroom-workplace collaborations. *Technical Communication Quarterly*, 10(2), 169–192.
- Church, Allen H. (2000). Do higher performing managers actually receive better ratings? A validation of multirater assessment methodology. *Consulting Psychology Journal: Practice and Research*, 52(2), 99–116.
- Coppola, Nancy & Elliot, Norbert. (2010). Assessment of graduate programs in technical communication: Constructing a model to engage complexity. In Jo Allen & Margaret Hundleby (Eds.), *Assessment in professional and technical communication*. New York: SUNY Press.
- DeCastro-Ambrosetti, Debra & Cho, Grace. (2005). Synergism in learning: A critical reflection of authentic assessment. *The High School Journal*, 89(1), 57–62.

- Dillon, Tracy. (1997). Corporate advisory boards, portfolio assessment, and business and technical writing program development. *Business Communication Quarterly*, 60(1), 41–58.
- DiMartino, Joseph & Castaneda, Andrea. (2007). Assessing applied skills. *Education Leadership*, 64(7), 38–42.
- Dorn, Charles, Madeja, Stanley, & Sabol, Robert. (2004). *Assessing expressive learning: A practical guide for teacher-directed authentic assessment in K–12 visual arts education*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Dragga, Sam. (1991). Responding to technical writing. *Technical Writing Teacher*, 18, 202–221.
- Dyrud, Marilyn. (2001). Group projects and peer review. *Business Communication Quarterly*, 64(4), 106–112.
- Faber, Brenton, Bekins, Linn, & Karis, Willam. (2002). Using corporate-based methods to assess technical communication programs. *Journal of Technical Writing and Communication*, 3(4), 307–336.
- Faber, Brenton & Johnson-Eilola, Johndan. (2002). Migrations: Strategic thinking about the future(s) of technical communication. In Barbara Mirel & Rachel Spilka (Eds.), *Reshaping technical communication: New directions and challenges for the 21st century* (pp. 135–148). Mahwah, NJ: Lawrence Erlbaum Associates.
- Fitzsimmons, Debra. (2008). Digital portfolios in visual arts classrooms. *Art Education*, 61(5), 47–53.
- Freedman, Avida & Adam, Christine. (2000). Write where you are: Situating learning to write in university and workplace settings. In Patrick Dias & Anthony Paré (Eds.), *Transitions: Writing in academic and workplace settings* (pp. 31–60). Cresskill, NJ: Hampton Press.
- Garay, Mary S. (1995). Meeting workplace needs in an introductory business writing course: A tale of a classroom corporation and a “boss” instructor. *Business Communication Quarterly*, 58(1), 35–41.
- Gulikers, Judith, Bastiaens, Theo, & Kirschner, Paul. (2004). Perceptions of authentic assessment: Five dimensions of authenticity. Paper presented at the second Bi-annual Joint Northumbria/EARLI SIG Assessment Conference, Bergen, Norway. Retrieved April 4, 2008, from <http://www.ou.nl/Docs/Expertise/OTEC/Publicaties/judith%20gullikers/paper%20SIG%202004%20Bergen.pdf>
- Huot, Brian. (1996). Toward a new theory of writing assessment. *College Composition and Communication*, 47, 549–566.
- Kohn, Alfie. (2006). The trouble with rubrics. *English Education (High School Edition)*, 95(4), 12–15.
- Murphy, Kevin R. & Cleveland, Jeanette N. (1995). *Understanding performance appraisal: Social, organizational, and goal-based perspectives*. Thousand Oaks, CA : Sage.
- Pfau, Bruce & Kay, Ira. (2002). Does 360-degree feedback negatively affect company performance? *HR Magazine*, 47(6), 55–59.
- Pittenger, Khushwant K. S., Miller, Mary C., & Mott, Joshua. (2004). Using real-world standards to enhance students’ presentation skills. *Business Communication Quarterly*, 67, 327–336.

- Rynes, Sara L., Gerhart, Barry, & Parks, Laura. (2005). Personnel psychology: Performance evaluation and pay for performance. *Annual Review of Psychology, 56*, 571–600.
- Savage, Gerald J. (2003). The process and prospects for professionalizing technical communication. In Teresa Kynell-Hunt & Gerald Savage (Eds.), *Power and legitimacy in technical communication: The historical and contemporary struggle for professional status* (pp. 137–165). Amityville, NY: Baywood.
- Scanlon, Patricia A. & Ford, Michael P. (1998). Grading student performance in real-world settings. *New Directions for Teaching and Learning, 74*, 97–105.
- Seshadri, Srivatsa. & Theye, Larry D. (2000). Professionals and professors: Substance or style? *Business Communication Quarterly, 63*(3), 9–23.
- St. Amant, Kirk & Nahrwold, Cynthia. (2007). Rethinking program review and assessment in technical communication. *Technical Communication, 54*(4), 409–411.
- Svinicki, Marilla D. (2004). Authentic assessment: Testing in reality. *New Directions for Teaching and Learning, 100*, 23–29.
- Taylor, Summer S. (2006). Assessment in client-based technical writing classes: Evolution of teacher and client standards. *Technical Communication Quarterly, 15*(2), 111–139.
- United States. (2006). *360-degree assessment: An overview*. Retrieved August 22, 2006, from <http://www.opm.gov/perform/wppdf/360asess.pdf>
- Wahlstrom, Billie. (1997). Designing a research program in scientific and technical communication: Setting standards and defining the agenda. In Katherine Staples & Cezar Ornatowski (Eds.), *Foundations for teaching technical communication* (pp. 299–316). Greenwich, CT: Ablex Publishing.
- Yu, Han. (2008). Contextualize technical writing assessment to better prepare students for workplace writing. *Journal of Technical Writing and Communication, 38*(3), 265–284.

---

### **Author Information**

Han Yu is an assistant professor at Kansas State University where she teaches technical and professional communication. Han received her Ph.D. from Illinois State University. Her research interests include writing assessment, workplace writing, and international and cross-cultural technical communication. Han's work has appeared in *Journal of Technical Writing and Communication* and *Technical Communication*.

---

# Knowledge Communication

## Formative Ideas and Research Impetus

**Peter Kastberg**

*University of Aarhus, Denmark*

This keynote was presented at the 2009 annual meeting on August 20, 2009, at the University of Aarhus, Denmark. The meeting's theme for that year was "The Language(s) of Technical and Scientific Communication: Global Perspectives and Local Practices."

### Ontology, Opposition, and Commensalism: A Brief History of Ideas of LSP

In order to introduce to a (primarily) North American audience the notion of Knowledge Communication<sup>1</sup> I would like to begin with a brief history of ideas<sup>2</sup> of the school of thought from which Knowledge Communication has emerged. This history of ideas is centered on three strands of thought which have been (and still are) formative in the development of professional communication in (continental) Europe as a research and university teaching discipline. The school of thought, which encompasses professional communication in (continental) Europe, is called Language for Specific/Special Purposes (LSP). From the viewpoint of a history of ideas, three strands of thought have dominated LSP research over the years: (a) An expanding linguistic ontology, (b) an ideology of opposition, and (c) a commensal relationship with (nonlinguistic) host discipline(s).

When it comes to "language," LSP has always had very strong ties to linguistics.<sup>3</sup> It is therefore no coincidence that one strand of the history of ideas of LSP is made up of objects of study stemming from linguistics. From lexis, that is, terms and terminology (e.g., Wüster, 1931) over syntax, that is, sentence

---

<sup>1</sup> This article is an edited version of the keynote that I gave at the CPTSC meeting in Aarhus, Denmark, in 2009. I would like to thank CPTSC for its generous offer to both let me give the keynote and to publish the paper.

<sup>2</sup> In a North American context, the notion of history of ideas goes back to Arthur O. Lovejoy (1936).

<sup>3</sup> In connection with "language," it is noteworthy that LSP has always—typically via LSP translation—had strong ties to second and tertiary language acquisition at university level, too.

structures and preferences (Hoffmann, 1976) to stylistics (Spillner, 1986), text (Kalverkämper, 1983) and currently genre (Göpferich, 1995). Over the course of modern LSP—from its early beginnings in the first half of the 20th century until today—we see a distinct pattern in the development of the objects of study. In the sense that, incrementally, the objects examined grow ever larger and ever more complex—basically from lexemes to genres.

When it comes to the ideology of opposition, the opposition in question is one of LSP versus ordinary—that is, nonspecific/nonspecial—language. Even if—to either a rhetorician or a communication scholar—the notion of language use may always be purposeful or specific, the demarcation as well as the school of thought behind it is very real indeed within LSP. What is meant by LSP is, generally speaking, the discourse of/in/by trades, professions, and disciplines; that is, socially formed and institutionalized activities or practices, which have to a large degree been sanctioned by some sort of (typically official) authority, e.g., a university, a committee, or a board. These activities and practices are seen as being in opposition to everyday activities and practices.<sup>4</sup> This opposition has been productive research-wise in the sense that it has spurred on much work from special lexis (i.e., developing terminologies of various kinds), to special genres (i.e., exhaustive descriptions of genres such as arbitration and patents). Apart from that research, it has even given rise to particular linguistics such as LSP text linguistics and LSP genre linguistics.

Despite its merits, the relationship between LSP and the disciplines, trades and professions with which LSP forms a symbiotic relationship, is not one of equality. Even if it is a symbiotic relationship it is not one of mutualism, but of commensalism. That is to say that LSP hardly effects, say, engineering disciplines, even if LSP researchers have studied engineering discourses for decades, whereas changes in the “host discipline,” e.g., engineering or nanotechnology, do indeed have an impact in LSP research. In the sense that new insights in the host disciplines breed new concepts, words, texts, genres and discourses—that is, new objects of study for LSP. The climate change and its emergent discourses are a vivid example of such commensalism; as well as an example that this relationship is not reversible.

## **Transition to Knowledge Communication by Way of a Few Critical Remarks**

In my definition of Knowledge Communication (Kastberg, 2007), I took my point of departure in the above (critical) understanding of LSP, which in turn

---

<sup>4</sup> Strangely, the characteristics of these dimensions of nonspecial/nonspecific entities have never really been examined to any larger extent within LSP research; they, therefore, typically function as the stipulated opposition to whatever LSP entity is examined.

means that Knowledge Communication in many ways has emerged as a response to LSP and to the three strands constituting its history of ideas. From my reading of LSP research literature, I have extracted what I believe to be LSP's two most salient aspects: The fact that the pivotal point was always specialized knowledge of some kind (be it in a trade, within a discipline etc.) and that the guiding question always was what happens with this knowledge (be in terminologies, discourses or genres; that is, in communication)? So building on the aspects of specialized knowledge and communication, Knowledge Communication was formed as a reaction to LSP, but—and this is important—whereas Knowledge Communication does recognize the accomplishments of LSP, it does not accept what I see as its limitations. And these limitations, too, I see mirrored in the three strands mentioned previously.

Even if the incremental expansion of the linguistic ontology—and hence the object of study—meant that LSP over the years would gradually be able to encompass entities of such complexity as genre, LSP is still—*mutatis mutandis*—a text-bound school of thought. Naturally, being text-bound, LSP has obtained a remarkable depth of insight into all matters pertaining to LSP texts. Depth of insight, however, harbors the danger of tunnel vision. Or to put it in words Protagoras may have welcomed, the text is not the measure of all things. As to the ideology of opposition, which not only permeates LSP but in many ways also structures it; that notion, too, is problematic. I'm not proclaiming that there are no differences between discursive practice at a workplace and, say, at home, because there surely are, but to talk about different languages is, to me at least, contra intuitive and probably in the long run even contra productive. What we are discussing are different discourses, many of which may co-exist; they may compete with one another and they may over time and from setting to setting develop along different or similar trajectories. Were a perspective within LSP to be developed along these lines, it would add considerably by way of nuances to LSP research; it would, however, also undermine its dichotic foundation.

The commensal relationship with (nonlinguistic) host discipline(s) can—in a (continental) European setting at least—be traced all the way back to the decline of romanticism (and with it the demise of the Goethean “universal geniuses”) and the onset of modernity (with its strict division of labor and general reverence for functionalism). Historic roots aside, this relationship cannot and will not change, the simple reason being that if you take out of LSP the special/specific purposes, you only have language left. In that sense LSP is an applied field of research and if you take away that unto which it applies itself (that is if you take away the host disciplines), the field of LSP ceases to exist.

As previously stated, Knowledge Communication is in many ways a reaction or a response to LSP and, having briefly introduced the three strands in the

history of ideas, I am now able to qualify that statement. In its capacity as a reaction or a response to LSP, Knowledge Communication sees the linguistic ontology, expanding though it may be, as a limitation, not so much with regards to the objects studied—they are both relevant and legitimate—but with regard to the ontological perspective itself. As a consequence, Knowledge Communication claims that not ontologies but epistemologies should be the driving force (see the *Epistemologies* subsection for an elaboration). As for the ideology of opposition, Knowledge Communication as a research field subscribes to an ideology of convergence rather than of opposition (see the *Convergence* subsection for an elaboration). Last but not least, Knowledge Communication recognizes that it, too, stands in symbiotic relationships to a variety of other disciplines. Knowledge Communication, however, claims that these relationships are not commensal symbioses, but rather that they are mutual symbioses (see the *Mutualism* subsection for an elaboration).

## **Formative Ideas on Knowledge, Communication and the Knowledge Society**

### **Epistemologies**

If we take epistemology<sup>5</sup> to mean as much as theory of knowledge and if we accept that there exist a number of such epistemologies, then we would have to concur that epistemologies are a matter of one's perspective (basically of the world). José Ortega y Gasset (1923/1961) put it this way:

Perspective is one of the component parts of reality. Far from being a disturbance of its fabric, it is its organizing element. . . . Every life is a point of view directed upon the universe. Strictly speaking, what one life sees no other can. . . . Reality happens to be, like a landscape, possessed of an infinite number of perspectives, all equally veracious and authentic. The sole false perspective is that which claims to be the only one there is. (p. 90)<sup>6</sup>

Leaving ontology as a frame of reference and being epistemologically open, as it were, Knowledge Communication had to reinvent its perspective(s). But because the phenomenon of knowledge is a pivotal point to Knowledge Communication and because epistemology was to be the frame of reference,

<sup>5</sup> A compound derived from Greek (*episteme* and *logos*), epistemology was originally a philosophical discipline, which focused on such dimensions as “what knowledge is,” “how knowledge is acquired,” and “how and if we can know anything.” Nowadays, however, epistemological views are also found in such metatheories as, say, positivism, constructivism, and rationalism because they each have a specific (or paradigmatic) view on knowledge, its definition, and acquisition.

<sup>6</sup> I would like to thank my colleagues Hugo Alro and Egon Noe for this reference.

the reinvention proved to be relatively straightforward. Three perspectives, that is, construction, representation, and communication of knowledge, were developed; partly because they seem to be able to encompass a sort of prototypical lifecycle of knowledge and partly due to the almost intuitively narrative nature of the triplet. Although the three perspectives together constitute a whole, each perspective has its own agenda:

- Construction: How may knowledge be constructed, individually, socially, discursively, or cognitively.
- Representation: How may knowledge be represented, materially<sup>7</sup> (e.g., in texts, architecture, or technology) as well as immaterially (in/as culture, conventions, habits, or rituals).
- Communication: How may knowledge be communicated to the “alter” (how—if at all—in which settings, media, or practices).

In their capacities as epistemological perspectives, they are analytical and not empirical entities; among other things this difference means that they are separated only to the extent that it fits the purpose of the research project in question (see the *Research Impetus* section). Naturally, they may—and often do—overlap empirically. The transcendental nature of the three perspectives, however, implies that even if one perspective is singled out, analyzed, and discussed individually; the frame of reference is always the “whole elephant,” never (merely) the tusk, a foot, the trunk as in the well-known Buddhist “Parable of the Blind Men and the Elephant” (Udana, pp. 68–69).

One advantage of this more complex, epistemological frame of reference, apart from avoiding the tunnel vision of much previous LSP research, is that adhering to a holistic view, Knowledge Communication researchers are able to engage in several theory discussions, foremost between (a) cognition and linguistics (knowledge → discourse), (b) linguistics and communication (knowledge → discourse → context), and (c) communication and society (knowledge → discourse → context → cooperation).

Summarizing the dominant research interests of cognition to be construction and representation of conceptual/cognitive knowledge, and those of linguistics to be linguistic (semantic, syntactic, and pragmatic) features of discourse, potentially fruitful theory discussions emerge between the two in relation to the integration of knowledge representation into linguistic and discursive structures. Compared to the discursive focus of linguistics, the research interests of communication are primarily directed at interactional aspects, the object of study being centred on aspects of the discourse-in-use. Not, as it were,

---

<sup>7</sup> As can easily be inferred, the material representation of knowledge shares some commonalities with the ontological views of LSP.

discourse per se. Potentially fruitful theory discussion between the two can be established where, for instance, speech act structures influence the communicative effect or where the communicative conditions influence the structure of the discourse. The final theory discussion is that which comes into existence between communication (with its point of departure in contextual issues) and social sciences with their focus on cooperative relationships between systems (e.g., in the sense of open systems' theory). Potentially fruitful theory discussions between context and cooperation can be opened where the relatively micro-oriented communicative theories meet and overlap with the relatively macro-oriented social science theories. With the slogan-like credo of modern-day communication theory that "organization is communication," a forum for discussions of the theoretical limits and potentials of each theory conglomerate is self-evident.

The ability to engage the ideas of disciplines spanning from cognition to social science is in itself a property, which is probably unique to Knowledge Communication. But being able to span several theory discussions does not imply that Knowledge Communication has no identity of its own, because it does—albeit at a postmodern, hypercomplex level (see Kastberg, 2007).

## **Convergence**

At a philosophical level, the ideology of convergence is congenial to the above elaborations, but convergence within Knowledge Communication is also seen at a more practical level. Whereas the *Epistemologies* subsection primarily focused on the issue of knowledge, and its inter and transdisciplinary nature within Knowledge Communication, convergence primarily focuses on a perception of communication.

The previous century saw a significant development of the theoretical framework for understanding how communication works and, consequently, how communication could theoretically be modelled. Steven A. Beebe, Susan J. Beebe, and Diana K. Ivy (2004) sum it up in this way:

Our understanding of communication has changed over the past century [i.e., the 20<sup>th</sup> century]. Communication was initially viewed as a transfer or exchange of information, but it evolved to include a more interactive give-and-take approach. It then progressed even further to today's view that communication is a process in which meaning is created simultaneously among people. (p. 11)

The transactive model of communication, that is, communication as co-construction, is today widely recognized as the (so far) most adequate illustration of how real-life communication is understood to work. It is, therefore, also the

model of communication unto which the elaboration of the formative idea in question in this section will be applied. Rogers and Kincaid (1981) have developed a version of the transactive model of communication, the convergence model of communication. Convergence metaphorically alludes to the idea that communicative partners converge on mutual understanding and (if the communication is successful) shared meaning and possibly shared action:

The model . . . depicts two participants (A and B) sharing a piece of information in a communicative situation or a series of situations. A and B perceive, interpret and understand the information, which may result in some sort of belief and action. This process, occurring over time, is a psychological one with an individual's background, personality, and so on playing a significant role. (Windahl, Sigmund, & Olson, 2002, p. 73)

Approaching communication from this perspective has far-reaching consequences. Because, as can be extracted from the quotation, the traditional notions of sender, receiver, and message have no place in this model, and hence no place in this perception of communication. Neither does this perception of communication allow for the "transfer" of knowledge between communication partners, knowledge is (discursively and otherwise) co-constructed. Based on such a framework a link may easily be established to the Habermasian notion of "communicative action." But whereas Knowledge Communication is transactive and allowing for knowledge to be co-constructed, the participants are not necessarily equals in the sense of Habermas' "communicative action" and Knowledge Communication is characterized by being goal-oriented and thus, *eo ipso* "strategic communication" in a Habermasian sense.<sup>8</sup> The goal, however, is the mediation of understanding across knowledge asymmetries (see also the *Mutualism* subsection) and not the oppression of the "alter" (as implied in strategic communication by Habermas). Taken seriously as communication in this transactive sense, then, Knowledge Communication is participative (interactive) and the entity, on which the communicative positions converge, is the co-construction of knowledge. But here we must not overlook that whereas Knowledge Communication is participative, it is not necessarily reciprocal. Referring to the existence of knowledge asymmetries,<sup>9</sup> there is by definition at least two positions in a knowledge communicative event: One position characterized by having a (relative) knowledge surplus and one position characterized by having a (relative) knowledge deficit. But neither must we overlook that the

<sup>8</sup> See for instance Nancy R. Blyler (1994) for a discussion of these topics within the framework of technical communication.

<sup>9</sup> For an in-depth elaboration of knowledge asymmetries in this sense, see Peter Kastberg (2009) "Knowledge Asymmetries: Beyond To Have and Have Not."

terms *knowledge surplus* (usually associated with the position of the expert) and *knowledge deficit* (usually associated with the position of the layperson) are by no means absolute terms. On the contrary, they are highly dynamic, both in the sense that the expert within one field may be a layperson within another, and in the sense that over time the label of layperson as well as that of expert may be rendered obsolete for a person in relation to a specific field or topic. In this connection it is important to add that adhering to an ideal of convergence, Knowledge Communication does not a priori subscribe to the notion that the expert is *eo ipso* the oppressor and the layperson *eo ipso* the oppressed in a knowledge asymmetry as much literature from within the field or critical studies would have it. By introducing this less confrontational ideology, I am by no means overlooking or discarding of neither the nature nor the phenomenon of oppression and exploitation, because that would obviously make me a “useful idiot” (as Lenin may have put it) of the powers that be in late capitalist societies. I am merely advocating that a changing of the optics may lead to new avenues of research.

Returning to convergence, I would say that what an ideology of transactive communication calls for is the creation of fora in which positions (be it individuals or communities) may be stimulated to interact with one another or with one or more media or channels in order to overcome knowledge asymmetries. Talking about such fora allows me to make a transition to the last of the three formative ideas behind Knowledge Communication, namely that of mutualism.

## **Mutualism**

The sociological framework of LSP was, as mentioned in the *Ontology, Opposition, and Commensalism* section, the trade, the profession, and the discipline. For Knowledge Communication, the sociological framework is the entity in which these are embedded, that is, the knowledge society itself. Among other things this means that Knowledge Communication has freed itself from the dependencies of any one host discipline (e.g., engineering, business, or law), but it does not mean that Knowledge Communication has freed itself from dependencies altogether. And neither does it want to. Knowledge Communication explicitly sees itself as a means to an end, the end being to help the knowledge society thrive and prosper. In the knowledge society/knowledge economy, the primary source of wealth is knowledge; not land, physical labour or the means of production.<sup>10</sup> But knowledge, regardless of how profound or specialized, will not and cannot in itself create societal value. For that to happen, the knowledge

---

<sup>10</sup> Among the pioneers for advocating that the distinctive features of (late) postmodern society are the pursuit, the proliferation and the utilization of knowledge we find Fritz Machlup (1962), Daniel Bell (1973), and, perhaps most prominently, Peter Drucker (1989).

produced must be communicated and thus be made available to society in one way or the other. So, for a knowledge society, the creation of knowledge is a necessary condition, but it is in itself not a sufficient condition. For the knowledge society to thrive, there are three prerequisites: (a) Being able to produce ever more specialized knowledge, (b) being able to communicate this specialized knowledge, and (c) doing so in such a way that this knowledge may be utilized.

The one predominant challenge of the knowledge society is and will continue to be how to transform ever more specialized knowledge into interactions in order for that knowledge to gain value (outside itself) (see Choo, 1998, p. xvi). And it is exactly that metamorphosis from knowledge via interactions to value, which is also the societal *raison d'être* of Knowledge Communication. This, in effect, frees Knowledge Communication from the spectre of the "handmaiden syndrome" in relation to any one host discipline (say, engineering). If commensalism exists, it is not between Knowledge Communication and (other!) trades, disciplines, or professions (here the relationship is one of mutualism) but between Knowledge Communication and its societal framework.

## **Research Impetus**

Describing Knowledge Communication as I have done, a world view very much in tune with that of North American pragmatism can be said to shine through:

We agree that pragmatism is a well-developed and attractive philosophy for integrating perspectives and approaches. Pragmatism offers an epistemological justification (i.e., via pragmatic epistemic values or standards) and logic (i.e., use the combination of methods and ideas that helps one best frame, address, and provide tentative answers to one's research question[s]) for mixing approaches and methods. A pragmatist would reject an incompatibility thesis and would claim that research paradigms can remain separate, but they can also be mixed into another research paradigm. He or she also likely would be content with making what Dewey called warranted assertions. (Johnson, Onwuegbuzie, & Turner, 2007, p. 125)

What is perhaps even more important is that because Knowledge Communication is defined the way it is, it is not and cannot be driven by anything but its research questions. It may seem a rather trivial statement, but in fact it is—never the less—crucial, because many disciplines are still driven by a specific theory, a set menu of specific methods or data. Knowledge Communication is independent from the restraints of any one theory or any one method. Showing traits of radical pragmatism, the only obligation accepted by Knowledge Communication is to match the complexity of the research question with modes of examinations

(theories and methods) befitting said complexity. Methodologically speaking, Knowledge Communication finds support in the words of John Law (2004) where he states:

if much of reality is ephemeral and elusive, then we cannot expect single answers. If the world is complex and messy, then at least some of the time we are going to give up on simplicities. But one thing is sure: if we want to think about the messes of reality at all then we are going to have to teach ourselves to think, to practice, to relate, and to know in a new way. (p. 2)

Concurrent with the fact that most products and services of our world become increasingly complex and messy (in terms of all phases from development, over production and distribution to usage, disposal and recycling), multi, inter, and transdisciplinarity (Kocka, 1987) becomes ever more present—in academia as well as in business and industry. The knowledge asymmetries between professions, trades, and disciplines are—due to a mixture of diverging traditions, cultures, identities, as well as the matter studied or produced itself (frogs, fixtures, or finance)—very real indeed. But equally true is the fact that the requirements of the market as well as those of academia make for strange bedfellows. Telecommunication alone could not have come up with the cell phone I use every day. Ergonomics, marketing, linguistics, technical communication, acoustics, and information technology (and more) all contribute to its design and usability. A well-known Danish university nowadays hosts a Department of Management, Politics, and Philosophy—making it an entity which would be virtually unthinkable at a traditional Humboldtian university. But because both the department and the cell phone are thriving—along with, naturally, a wide variety of modern day Chimeras—why not use that as an impetus to turn the tables and look upon knowledge asymmetry not as a barrier but as a vehicle for change? As a vehicle for change, the metaphor to subscribe to would not be one of confrontation but one of co-construction. Along the lines of *do ut des*, the basic currencies of any alliance of this sort are tradeoffs, making the relationship to strive for a de facto mutualistic symbiosis. If we—for argument's sake—leave aside all other parameters than that of knowledge asymmetries in a Knowledge Communication setting, that which is traded is communicable intellectual capital, that is, knowledge-enabling information. Seen from this perspective, a fundamental research impetus would include the following questions:

- What are the social and/or societal, the contextual and/or cultural mechanisms that seem to favor a mutualistic rather than an antagonistic behavior between at least some disciplines, trades, and professions at least some of the time?

- What praxis (be it linguistic, discursive or communicative) may be observed in a successful/unsuccessful Knowledge Communication setting?
- What role if any—because not all problems are communication problems (Windahl, Signizer, & Olson, 2002)—do linguistic, discursive, and communicative practices play in a Knowledge Communication setting?

## Summing Up

With a research impetus along these lines, Knowledge Communication is—disciplinarily speaking—imperialistic and postmodern. It is imperialistic in the sense that it sees itself as the capstone of a number of traditional disciplines (e.g., LSP, applied linguistics, and technical communication). It is postmodern in the sense that the rationale of knowledge communication is not: Where do we go to find the answers? But the radically different one, namely: Where do we go to find the questions?

The first step towards finding these questions would be to venture out into the so called real world and honor Geertz's credo that anthropologists don't study villages, they study *in* villages. Or, to rekindle an observation from the laboratory studies, be spurred on by a paradox like this one:

Since the turn of the [last] century, scores of men and women have penetrated deep forests, lived in hostile climates, and weathered hostility, boredom, and disease in order to gather the remnants of so called primitive societies. By contrast to the frequency of these anthropological excursions, relatively few attempts have been made to penetrate the intimacy of life among tribes which are much nearer at hand. (Latour & Woolgar, 1986, p. 17)

But what would such an approach hold in store for us in terms of new insights? Henry Mintzberg (1979) has at least part of the answer:

Theory building seems to require rich description, the richness that comes from anecdote. We uncover all kinds of relationships in our "hard" data, but it is only through the use of this "soft" data that we are able to "explain" them, and explanation is, of course, the purpose of research. I believe that the researcher who never goes near the water, who collects quantitative data from a distance without anecdote to support them, will always have difficulty explaining interesting relationships. (p. 113)

Last but not least: on whom are we to focus our newfound attention? Why not start by taking a closer look at knowledge workers. Why? Because the knowledge

society can only be a knowledge society if the majority of its citizens are knowledge workers (e.g., Organization for Economic Cooperation and Development, 1996). It is not the society as such, nor is it its organizations, institutions, bricks or infrastructures, which is knowledgeable let alone has agency to produce and consume knowledge. On the contrary, it is the prerogative of the individuals that make up the society. Knowledge workers are people who primarily work as 'symbolic analysts', that is, working with and producing symbols rather than, say, physical objects (Reich, 1991). When the translator translates, when the communicator communicates, and when the technical writer writes, then s/he is working with symbols—the symbols of the trades in question being words, texts, and images. And—while we are at it—let us not forget that apart from communicators of various kinds, the label knowledge worker also applies to teachers, human resource officers, lawyers, architects, designers, shipping agents, and so on. And it is especially when appreciating this fact that Knowledge Communication becomes a relevant field of interest far beyond traditional disciplinary boundaries.

## References

- Beebe, Steven A., Beebe, Susan J., & Ivy, Diana K. (2004). *Communication: Principles for a lifetime*. (2nd Ed.). Boston: Pearson Allyn and Bacon.
- Bell, Daniel. (1973). *The coming of post-industrial society*. New York: Basic Books.
- Blyler, Nancy R. (1994). Habermas, empowerment, and professional discourse. *Technical Communication Quarterly*, 3(2), 125–145.
- Choo, Chun Wei. (1998). *The knowing organization: How organizations use information to construct meaning, create knowledge, and make decisions*. New York: Oxford University Press.
- Drucker, Peter. (1989). *The new realities*. Oxford: Butterworth/Heinemann.
- Göpferich, Susanne. (1995). *Textsorten in naturwissenschaft und technik: Pragmatische typologie, kontrastierung, translation* [Genres in natural sciences and engineering. Pragmatic typology, comparison, translation]. Tübingen, Germany: Narr.
- Hoffmann, Lothar. (1976). *Kommunikationsmittel fachsprache* [Domain-specific language as a means of communication]. Leipzig, Germany: Akademie Verlag.
- Johnson, Burke R., Onwuegbuzie, Anthony J., & Turner, Lisa A. (2007). Towards a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112–133.
- Kalverkämper, Hartwig. (1983). Textuelle fachsprachenlinguistik als aufgabe [Domain-specific textlinguistics as challenge]. *Zeitschrift für Literaturwissenschaft und Linguistik*, 51/52, 124–166.
- Kastberg, Peter. (2007). Knowledge Communication: The emergence of a third order discipline. *Kommunikation in Bewegung: Multimedialer und multilingualer Wissenstransfer in der Experten-Laien Kommunikation*. Berlin: Peter Lang. 7–24.

- Kastberg, Peter. (2009). Knowledge asymmetries: Beyond to have and have not. Manuscript submitted for publication.
- Kocka, Jürgen (Ed.). (1987). *Interdisziplinarität: Praxis, herausforderungen, ideologie* [Interdisciplinarity: Praxis, challenges, ideology]. Frankfurt am Main: Suhrkamp Taschenbuch Wissenschaft.
- Latour, Bruno, & Woolgar, Steve. (1986). *Laboratory life: The construction of scientific fact*. New Jersey: Princeton University Press.
- Law, John. (2004). *After method: Mess in social science research*. London: Routledge.
- Lovejoy, Arthur O. (1936). *The great chain of being: A study of the history of an idea*. Cambridge, MA: Harvard University Press.
- Machlup, Fritz. (1962). *The production and distribution of knowledge in the United States*. Princeton, NJ: Princeton University Press.
- Mintzberg, Henry. (1979). *The structuring of organizations: A synthesis of the research*. Englewood Cliffs, NJ: Prentice Hall.
- Organization for Economic Cooperation and Development. (1996). *The knowledge-based economy*. Paris: Author.
- Ortega y Gasset, José. (1961). *The modern theme* (James Cleugh, Trans.). New York: Harper. (Original work published 1923)
- Reich, Robert B. (1991). *The work of nations: Preparing ourselves for 21st-century capitalism*. London: Random House.
- Rogers, Everett M., & Kincaid, D. Lawrence. (1981). *Communication networks: Towards a paradigm for research*. New York: Free Press.
- Spillner, Bernd. (1986). Fachtext und fachstil [Domain-specific text and domain-specific style]. *Jahrbuch Deutsch als Fremdsprache*, 12, 83–97.
- Windahl, Sven, Signitzer, Benno, & Olson, Jean T. (2002). *Using communication theory: An introduction to planned communication*. London: Sage Publications.
- Wüster, Eugen. (1931). *Internationale sprachnormung in der technik, besonders in der elektrotechnik* [International language standardization, especially within electrotechnics]. Dusseldorf, Germany: VDI-Verlag.

---

### **Author Information**

Peter Kastberg holds a PhD in genre linguistics (technical communication) and is an associate professor at Aarhus School of Business, University of Aarhus, Denmark. He is the founder of and has until recently been the director of the ASB Research Area for Knowledge Communication. He is currently working on his second doctorate. Among his research interests count: mediation of specialized knowledge across knowledge asymmetries, the ontogenesis of knowledge, and public understanding of science and research. Peter Kastberg is also the editor-in-chief of *Language at Work: Bridging Theory and Practice* ([www.languageatwork.eu](http://www.languageatwork.eu)).

# Cedarville University Technical and Professional Communication

**Sandi Harner**

*Cedarville University*

**Abstract.** This article describes the development and program history for the Technical and Professional Communication undergraduate major at Cedarville University. The article includes program distinctives, as well as profiles of students, graduates, faculty, and facilities.

**Keywords.** assessment, client-based projects, curriculum development, Industry Advisory Board, rhetorical theory, technical communication, theory and practice

Cedarville University (CU) is a Christ-centered, Baptist university of arts, sciences, and professional and graduate programs. Located on 400 acres at the north edge of the village of Cedarville, Ohio, Cedarville University was founded in 1916. In 2009, 3,038 undergraduate students were enrolled. Forty-nine states and 13 foreign countries are represented by the student body. Thirty-one students were declared technical and professional communication majors. CU has a 14:1 student/faculty ratio.

## Program History

### The Beginning

In 1984, during a meeting of the Department of Language and Literature, the then-Chair Edward Spencer asked faculty, "What could we do to make our majors more marketable?" At the time, the department housed three majors: literature, English/secondary education, and Spanish. No one responded to the question. After an awkward silence, I said, "We could develop a technical writing program." Everyone immediately thought that was a great idea and that I should do that. In a few short weeks, I found myself enrolled in the 35<sup>th</sup> Annual Technical Writing Institute for Teachers at Rensselaer Polytechnic Institute in Troy, New York. There I learned from seasoned technical writers and technical writing teachers such as James Souther, David Carson, David Porush, Lee Odell, Robert Krull, Jeff Hibbard, James Kinneavy, Philip Rubens, Merrill Whitburn, and the distinguished professor Jay R. Gould.

---

*Programmatic Perspectives*, 2(1), March 2010: 72–85. Contact author: <harners@cedarville.edu>.

Two months after leaving Renssler, I submitted a proposal to Cedarville College proposing a professional writing minor in the Department of Language and Literature. The minor consisted of the following five courses (At the time Cedarville College was on the quarter system):

***Style and Mechanics for Writers: 3 hours***

A prescriptive approach to a clear, concise prose that is grammatically correct.

***Professional Writing: 5 hours***

An introduction to basic technical communication in which students learn oral and written communication with the use of effective visuals.

***High Technology for Professional Writers: 3 hours***

Guest speakers will lecture on introductory material in the fields of engineering, electronics, physics, and computers; students will have hands-on experience with word processing; experience editing technical articles related to these fields.

***Report Writing and Technical Editing: 4 hours***

A study of the techniques necessary for writing clear, well-organized reports of various kinds and experience in editing technical articles in preparation for a profession in technical editing.

***Advanced Professional Writing: 4 hours***

An on-the-job simulation of work for which technical writers are responsible with an emphasis on deadlines, accuracy, effective, professional communication; resume preparation and practice in job interviews; preparation for professionalism.

The remaining forty hours of the major consisted of specific courses in literature determined by the department.

The proposal was accepted and classes were offered the fall of 1985 with thirteen students enrolled in the minor:

*The technical writing program came at a perfect time for me. I wanted to be an English major, but I didn't really want to teach. This was exactly what I was looking for. The program gave me valuable tools for my future. Kevin Shaw, 1987 graduate*

**Changes Come**

In 1992, we hired an additional faculty member to teach in the professional writing program. Donald Humphreys, a 1989 graduate of the program, had just finished an MA in technical and scientific communication at Southern Polytechnic

while working for IBM in Atlanta. With his arrival, we moved the professional writing minor to a major in the Language and Literature Department.

In 1999, we changed the name of the major from professional writing to technical and professional communication (TPC). By then we had added several new courses. The program now included the following requirements:

<b>Course Number</b>	<b>Course Name</b>	<b>Qt. Credit Hours</b>
ENG 223	Advanced Composition	3
ENG 307	Advanced Grammar	5
TPC 210	Proofreading	3
TPC 301	Style and Mechanics for Writers	4
TPC 302	Technical Marketing Communication	5
TPC 303	The Technical Communicator in a Corporate Culture	3
TPC 316	Technical Communication	5
TPC 317	Graphic Design	5
TPC 318	Instructional Design	5
TPC 402	Designing Information for the Web	4
TPC 413	Technical Editing	3
TPC 414	Report Writing	5
TPC 415	Special Topics	5
TPC 419	Design of Manuals	5
TPC 420	Designing Online Information	5

In 2000, Cedarville College became a university, and in 2002, Cedarville made the change from quarters to semesters. During our planning for the change to semesters, we took the opportunity to propose the following new courses:

<b>Course Number</b>	<b>Course Name</b>	<b>Sem. Credit Hours</b>
TPC 2000	Production Tools for Technical Communicators	3
TPC 3020	Professional Portfolio Development I	1
TPC 4020	Professional Portfolio Development II	1
TPC 4160	Internship	10

The Internship was a significant addition. In the past, it had been highly recommended, but now it became a requirement.

During the next years, faculty came and went. Currently, I continue to serve as the director of the program and to teach the majority of the courses. In 2009, we added the following courses:

Course Number	Course Name	Sem. Credit Hours
TPC 3180	Visual Rhetoric	2
TPC 4090	Designing Online Information II	3
TPC 4140	Instructional Design II	3

For a full listing of current requirements, see <<http://www.cedarville.edu/courses/catalog/current/II.pdf>>, p. 123.

## Student and Graduates

When the program began as a professional writing minor, many students enrolled not understanding the true technical nature of the program. Those who wanted to write the great American novel were frustrated. However, the program enjoyed large enrollment. At its peak, enrollment reached as high as 48 majors. In 1999, when the name of the program was changed to technical and professional communication, numbers began to drop, as we anticipated they would. We found that first-year students rarely come to college knowing anything about technical communication. They don't know we exist and they don't know what they can do with the major. In 2006, fall enrollment showed eleven students declared in the major, with zero first-year students. With talk from the administration about shutting down the program, I took a fifteen-minute presentation to each of the twenty-five sections of first-year composition and talked about our TPC program and the success students had in the job market. By the end of two weeks, the enrollment had doubled to twenty-two. I have continued to recruit from the first-year classes each year, and we have started the Fall 2009 semester with thirty-one declared students.

Students in the program like to write. And they have usually had a very successful time in high school English classes, but they don't want to teach. When they are presented with a major that requires excellent writing skills and still gives them an opportunity to find a job that pays the rent and allows them to actually pay their college loans, they are eager to start the program.

Our TPC graduates work in a variety of writing and communication environments, including IBM, Dell, Procter & Gamble, McGraw Hill Publishing Company, Yellow Springs Instrument, ExactTarget, and many other organizations of all sizes.

Over the years, graduates of the program have pursued both master's and doctorate degrees. They tout graduate degrees from Southern Polytechnic, Miami University, The Ohio State University, and Rensselaer Polytechnic Institute, to name a few. They report management positions in many different organizations.

Students find challenging internships. In the early days, internships were difficult to find. I spent hours on the phone with prospective employers

explaining our program and what students could offer the company through an internship. Many internships were completed without any pay for the students. However, in the early 1990s, we had a close relationship with IBM in Research Triangle Park, North Carolina. During that decade, we placed approximately fifteen students there for internships. Many of them were offered full-time jobs after graduation. Through Society for Technical Communication (STC) networks, many other companies opened their doors to Cedarville interns. We had several go to Dell in Austin, Texas. Over the years, companies of all sizes have hired Cedarville students as interns.

One student's internship in 2008 took him all the way to Costa Rica where he served with the U.S. Embassy:

*At first, I thought the offer was based on my past overseas experience, or on my knowledge of Spanish, or maybe even on my interest in working in government one day. But none of these reasons proved true. The State Department chose me for the internship simply because of my technical communication major. Basically, the Embassy was very interested in using my language, design, and wordsmith skills to serve the Consular section. My tasks varied, but while in Costa Rica I wrote messages, news releases and updates to be sent out to the local American community. I also worked with U.S. citizens in prison in San José and wrote a small manual outlining the rights of Americans in prison and explaining the steps they need to take to be released or extradited to the U.S. Adam Evans, 2009 graduate*

Another student interned at Yellow Springs Instruments (YSI):

*I worked with the EcoMapper, a cutting-edge, six-foot robotic submarine painted bright yellow. Equipped with state-of-the-art technology, the EcoMapper collects data on water quality and creates extremely high-resolution maps of bodies of water that government and environmental agencies use for research. My assignment meant I had to become an expert on the EcoMapper and then transfer that knowledge to a user manual. The project was overwhelming, to say the least, especially given the 10-week deadline to complete the manual in time to ship an EcoMapper to the first customer. Kaleb Eldridge, 2009 graduate.*

The supervisor of his internship wrote on his final evaluation,

*YSI has realized the value of hiring a trained technical communicator through the work of Kaleb Eldridge. We look forward to future connections with the Cedarville TPC program. Rob Ellison, YSI*

YSI hired Kaleb after his graduation.

Students are also very involved in the campus chapter of the Society for Technical Communication. Our student chapter was chartered in 1988, and since that year we have won several international chapter awards, including two Chapter of Excellence awards, two Newsletter awards, and two Pacesetter awards. Since 1992, we have had twenty students inducted into Sigma Tau Chi, STC's student honorary society, and two TPC students have received the International Distinguished Service Award from STC. Students tend to become active in professional STC chapters after graduation, even serving as president for their local chapters.

## Faculty

The following faculty teach in the TPC program:

- Sandi Harner, Professor, Founder, and Director of the program.
- Don Humphreys, Associate Professor of Technical Communication
- Melissa Faulkner, Assistant Professor of English

As Director of the program, it has been my passion to keep the TPC program relevant. That doesn't mean that industry needs or fads have been the impetus for program changes, but it does mean that as the profession has broadened over the years, I have tried to keep the curriculum focused in ways that would prepare graduates to be successful in a variety of technical and professional communication environments. My research has primarily centered on curriculum development. I also have a keen interest in the technical marketing communication field, and in 1997, I received the first STC Faculty Internship grant, a monetary incentive for teachers of technical communication to step out into the workforce and experience first-hand much of what we teach in the classroom. I welcomed that opportunity and worked all summer for MYCOM, Inc., a technical marketing communication firm, located in Cincinnati, Ohio. In 2002, I co-authored *Technical Marketing Communication*, published by Allyn & Bacon in their Technical Communication Series.

Don Humphreys is associate dean for the Center for Teaching and Learning (CTL) and associate professor of Technical Communication. Humphreys is a 1989 graduate of the TPC program here at CU. He earned an MS in Technical Communication from Southern Polytechnic University and an MA from The Ohio State University in Instructional Design and Technology. He has spent over fifteen years in the corporate world as an instructional designer, usability consultant, and technical writer. In addition to his responsibilities in the CTL and the TPC program, Don continues his consulting work as a Senior Instructional Designer with S4NetQuest, an eLearning firm based in Columbus, Ohio. He teaches Instructional Design I and Instructional Design II in the TPC program.

Melissa Faulkner, an Assistant Professor of English, joined CU's Language and Literature Department in 2007, after earning her PhD in Composition and Rhetoric from Miami University of Ohio. Faulkner also has a certificate in technical and professional communication from Wright State University. She teaches Basic English, Composition, Advanced Composition, and Introduction to Literature. Dr. Faulkner's areas of specialty include classical rhetoric, working-class rhetoric, research methods, and Writing-Across-the-Curriculum. She teaches the Design of Manuals class, Professional Portfolio I and II, and our new course, Visual Rhetoric.

Faculty for the TPC program is an area where we have always struggled. Although the program has always been strongly supported by the chair and the faculty in the Language and Literature Department, getting additional full-time faculty has been a challenge. In addition to the three faculty listed above, we currently hire two adjuncts.

## **Facilities**

When the program began in 1985, I did not even have a computer in my office. But then, neither did any of the faculty. By 1987, Cedarville College boasted one computer lab with approximately 40 computers. Students and faculty waited their turn for use of the computers. In 1988, two computer classrooms were added to the campus, and I was privileged to have my TPC classes scheduled in those classrooms. In those days, I remember that I had to teach students how to turn on the computer and how to handle the 5.5 inch floppy disks. By 1993, our campus became an IBM Showcase Account with the addition of several computer classrooms and a computer and printer in every dorm room. During that decade, I often had to go to several different buildings each day for the TPC classes scheduled in computer classrooms.

In 2002, CU opened a new student union that housed a new cafeteria. The old cafeteria building was completely gutted and retrofitted with a strong emphasis in technology. In fact, the building was named Tyler Digital Communication Center. In this newly designed building, the TPC program received a dedicated classroom and office space adjoining it. The classroom is equipped with 24 computers that line three walls of the room with a fully equipped tech cart in the front. A small conference table with high-back chairs sits in the back of the room and accommodates many small group meetings. Four rows of modular tables and chairs are in the middle of the room. They can be configured in various ways to accommodate lecture or small group activities. We have a large color printer in that room that is used only by TPC students to print final pieces for their portfolios.

## **Program Objectives**

The TPC program includes the following objectives:

- Students will ethically gather, access, and use primary and secondary information demonstrating a biblical worldview.
- Students will demonstrate the ability to write clearly, concisely, cohesively, and coherently.
- Students will analyze audiences or users, their needs and constraints.
- Students will use technology in research, development, and production of both print and digital media.
- Students will create documents appropriate for the needs and constraints of targeted audiences or users.
- Students will demonstrate the ability to critically read and apply communication theory.
- Students will exhibit preparedness for professional life through appropriate social interactions and portfolio development.

Our entire university is heavily involved in assessment; consequently, we have done extensive work in preparing an assessment process that is being implemented for the first time in Fall 2009. (See the Appendix for one of our assessment documents.)

## **Distinctive Features of the Program**

From the inception of this program as a minor through its evolution to a major, the Language and Literature Department has been fully supportive. In the early days, when it was a minor consisting of nineteen quarter hours, students were actually English majors with a professional writing minor. During those days, the then-Chair Ray Bartholomew, who was a Shakespeare scholar, called me into his office and asked me the following question: "Isn't there a class that your students could take that would be more meaningful to them than my Shakespeare class?" He assured me that I would not offend him if I dropped the Shakespeare requirement and proposed a new course for professional writing students. Design of Manuals was the result of that conversation.

That support led to easy acceptance of all new course proposals as we dropped one literature requirement after another to make room for the new TPC courses. Now TPC majors take the same amount of literature as all students at the University to satisfy general education requirements.

A balance of theory and practice has always been one of the distinctive features of our program. TPC students are exposed to rhetorical theory in the first

course in the program, and that theory provides the basis for the remainder of the curriculum. Adult learning theory is the focus of both the Instructional Design courses. Theory is the underpinning of everything they learn throughout the required courses. In addition to knowing how to be an effective technical communicator, we emphasize the necessity of knowing why technical communicators make the choices they make.

Each student takes Visual Rhetoric during the junior year. That course is a blend of learning rhetorical theory of communicating visually and analyzing visuals as they apply the theory. During the spring of the senior year, students take Special Topics, the capstone class. This course introduces students to some central works in the TPC field, familiarizes them with some prominent theorists and notable theoretical approaches. Currently, we use *Central Works in Technical Communication* edited by Johndan Johnson-Eilola and Stuart Selber.

During the semester, students are assigned to be the discussion facilitator several times. Everyone is required to read the assigned material.

As discussion facilitators, students are responsible for the following tasks:

- By noon two days prior to the class in which students are scheduled to facilitate, the facilitator must send by email to all classmates and the instructor the discussion questions for the assigned reading.
- Before the discussion starts, the facilitator is to share biographical information about the author(s) of the day.
- Facilitators start and keep the discussion on task, taking charge and fielding questions as the discussion progresses. Facilitators are not to allow any one person or persons to dominate the conversation and are to make sure they acknowledge all participants.
- Facilitators should move through discussion material at an appropriate pace. This movement doesn't mean that the entire list of questions must be discussed because it is possible that some questions may take longer. Facilitator should not stifle a lively discussion, but should be aware when the class needs to move on to another question.
- The questions should guide the discussion in such a way as to involve significant issues that require students to find connections and develop threads from previous readings.
- The facilitators' grades are based on the quality of the questions as well as the skill of facilitation. The grades are reduced if the questions are not delivered on time.

- The facilitator should use creative ways to augment the discussion (i.e., real-life examples, illustrations, previous class discussions).

As class participants, students are responsible for the following tasks:

- Carefully read each assignment.
- Bring to each class written notes in answer to the questions. Grades will be reduced if students do not have written answers to the questions.
- Participation grades are based on the quality of the participation, the significance of comments, and the quality of the notes brought to class. Everyone is expected to participate equally.

In addition, students must choose a rhetorical theory and complete an annotated bibliography. Then they are to write a paper that involves a literature review, an explication of the theory, and an application of the theory to the work of technical communicators. At the end of the semester, students are responsible to give a professional presentation of their findings to all TPC students and faculty.

In addition to theory, our curriculum emphasizes hands-on practice of the skills needed to be successful in the profession. Students experience client-based assignments beginning with the introductory technical communication course and continuing throughout the entire curriculum. In Technical Marketing Communication, students plan a marketing strategy for a nonprofit organization and execute the plan with several marketing pieces. In Developing Online Information, students work with individual clients who need websites. In Instructional Design I, students develop a stand-up, face-to-face training program for faculty and staff, a project which culminates in delivery of the training. In Instructional Design II, students plan and deliver an e-learning course to a client. In Design of Manuals, students work with a client for a group project to deliver a user manual.

In addition to coursework, students are expected to participate in client-service projects. These projects serve two purposes: to provide portfolio pieces for individual students and to earn money for our annual STC trip in the spring. We advertise these projects by email to all faculty and staff, describing the type of services we provide. As projects come in, students volunteer to take them on. They initiate contact with the client, gather all information, and complete the project. The client fills out an evaluation of the experience and sends a donation to our STC fund. We have created PowerPoint slides for faculty, department brochures, flyers, posters, and websites. In addition, students have edited many documents. The donated funds allow us to take a spring

trip. We choose a destination city and then network to find companies that hire technical communicators and are willing to host a tour of their company. The technical communicators usually spend time with the students discussing their work.

Students collect their work, both from the classroom and from the client-service projects, in a professional portfolio. They learn how to create this portfolio in both Professional Portfolio courses—as a sophomore and again in the senior year. The Industry Advisory Board for the TPC program interacts with students three times a year. First, during the Portfolio course, students have to choose a job announcement for which they are comfortable applying. They send a copy of the job announcement, a resume, and a cover letter to an assigned member of our Industry Advisory Board. The board member and the student communicate and set a date and time for a mock phone interview conducted by the board member. Two weeks later, the Board comes on campus and spends the afternoon conducting mock face-to-face, follow-up interviews with students. Later in the year, board members return to conduct a portfolio review and to evaluate students based on their portfolios and ability to present that work to the board members.

A final distinctive feature the CU's TPC program is our attempt at globalization. We have a long way to go before we can say that our program includes a global emphasis. However, Cedarville University is committed to giving students the opportunity to travel abroad. Every semester students have the opportunity to study in England, Ireland, Spain, or many other countries. During the summers, several instructors teach one of their courses in another country. Cedarville students can register for those courses to fulfill general education requirements or one of their major requirements. In May 2009, TPC students were able to take Technical Marketing Communication in Marburg, Germany. At the end of our term (four weeks), students completed a group project—a 52-page booklet entitled *The American Student's Guide to Marburg*. In May 2010, *Designing Technical Reports* will be taught in Athens, Greece.

## **Concluding Remarks**

When I look back at that department meeting in 1984, I am amazed at what has resulted from a seemingly innocuous question about making TPC majors more marketable. We have seen changes in curriculum, faculty, facilities, and even the kinds of students we attract. But the mission has been consistent: to graduate students who can solve communication problems in a variety of workplace situations and who can become change agents in leadership positions. Together, the faculty and students have learned a great deal about what it means to be an effective technical communicator in today's world.

## Appendix

### Example TPC Assessment Document

1. Students will ethically gather, access, and use primary and secondary information demonstrating a biblical worldview.
2. Students will demonstrate the ability to write clearly, concisely, cohesively, and coherently.
3. Students will analyze audiences or users, their needs and constraints.
4. Students will use technology in research, development, and production of both print and digital media.
5. Students will create documents appropriate for the needs and constraints of targeted audiences or users.
6. Students will demonstrate the ability to critically read and apply communication theory.
7. Students will exhibit preparedness for professional life through appropriate social interactions and portfolio development.

#### ***Objective 1 will be assessed in the following ways:***

- In Corporate Culture, students will write a final paper on their theology of work and how it relates to the profession of technical communication.
- In Visual Rhetoric, students will demonstrate ethical choices in using and designing visual communication.
- In Technical Communication and Designing Technical Reports, students will analyze incidents such as Three Mile Island, Challenger, and Enron to determine the ethical consequences of organizational communication.

#### ***Objective 2 will be assessed in the following ways:***

- In Style, students will demonstrate through pre and post tests their mastery of writing clearly, concisely, cohesively, and coherently.
- In Designing Technical Reports, Instructional Design, and Special Topics, students will demonstrate through final papers their ability to write clearly, concisely, cohesively, and coherently.

#### ***Objective 3 will be assessed in the following ways:***

- In Technical Communication, Design of Manuals, Instructional Design I and II, and Designing Information for the Web I and II,

students will demonstrate the ability to analyze the needs and constraints of their intended audience in specific projects.

- In Technical Marketing Communication, students will demonstrate their ability to complete a needs analysis for an intended audience.

**Objective 4 will be assessed in the following ways:**

- In Designing Information for the Web, students will demonstrate their ability to use technology as they develop usable websites for potential clients.
- In Production Tools, students will learn technology that is used in their coursework, as well as in the workplace. More importantly, students will learn how to teach themselves software packages so that they can continue lifelong learning in that field.
- In Design of Manuals, Technical Marketing Communication, and Instructional Design I and II, students will use technology to produce various projects for intended audiences.

**Objective 5 will be assessed in the following ways:**

- In Design of Manuals, Instructional Design I and II, and Technical Marketing Communication, students will demonstrate the ability to shape a document that will meet the needs and constraints of their targeted audience.

**Objective 6 will be assessed in the following ways:**

- In Visual Rhetoric, students will learn to read theory and apply it to their work.
- In Special Topics, students will demonstrate the ability to read theory, facilitate discussion about that theory, and apply it to specific communication tasks.

**Objective 7 will be assessed in the following ways:**

- In Portfolio I and II, students will prepare a professional portfolio that effectively demonstrates their experience and abilities in the profession of technical communication.

---

**Author Information**

Sandi Harner is Senior Professor in the English Department at Cedarville University. She joined the faculty in 1981. In 1985, she founded the technical and professional communication major and continues to direct the program. She co-authored a book entitled *Technical Marketing Communication*, which was published by Allyn & Bacon/Longman

in 2002. Sandi served on the Society for Technical Communication (STC) Board of Directors as Assistant to the President for Academic and Research Programs from 1998 until 2006. Currently she serves on the Governance Committee of the STC Technical Communication Body of Knowledge Team, providing Strategic Oversight to the area of education. She was the recipient of the Jay R. Gould Award for Excellence in Teaching Technical Communication in 1996. In 2001, she was named STC Fellow.

# Balancing Acts

## A Case for Confronting the Tyranny of STEM

**Robert R. Johnson**

*Michigan Technological University*

**P**rograms in technical and scientific communication are indelibly connected with science and technology: not surprising given the titles of the field and associated programs and organizations. Yet, our visibility and power when it comes to competing for resources with science and technology is not at all a level playing field. This, too, comes as no surprise. However, I believe it is time to be surprising. We have every right to have our role more centrally recognized in the development of technologies and the explorations of science. Now is the right time to begin a conversation among our programs that could make the weaker the stronger, in the old sophistic sense of overcoming the tyranny of thinking that has evolved from the current education acronym of STEM—science, technology, engineering and mathematics.

To this end, I present an argument for finding at least some modest avenues for beginning a larger public conversation about STEM and the rest of us. “The rest of us,” as I cast it here, places technical and scientific communication in the context of the humanities and liberal arts. That, in itself, might raise some other conversations among the readers of this journal. I can only hope ;-)!

I will begin at the top, with a consummate communicator who now resides in the Oval Office.

On April 27, 2009 President Obama addressed members of the National Academy of Sciences at their 146<sup>th</sup> annual meeting. The address covered a number of issues ranging from health to the environment to renewable energy to biomedicine, among others. In addition, his speech emphasized the commitment that the administration has to furthering education in what we often now refer to as STEM:

Since we know that the progress and prosperity of future generations will depend on what we do now to educate the next generation, today I’m announcing a renewed commitment to education

in mathematics and science. Through this commitment, American students will move from the middle to the top...for we know that the nation that out-educates us today will out-compete us tomorrow. And I don't intend to have us out-educated. (para. 58)

To this end, the government is ramping up financial resources and incentives in grand ways to reach the goal of educating American youth in STEM at all levels of the educational strata, from K-12 to graduate study. For example, an immediate \$5 billion is being provided for the Race to the Top program which will reinforce endeavors to, as Obama (2009) states, "dramatically improve achievement in math and science standards, modernizing science labs, upgrading curriculum, and forging partnerships to improve the use of science and technology in our classrooms...[and] to enhance teacher preparation and training" (para. 62). In addition, the new budget will triple the number of graduate research fellowships.

### **Avoiding Folly: The Problem of "Proportionate Share"**

Few would argue that this gearing up of STEM education is unwarranted. Quite the opposite is true as it is clear that the U.S. has been challenged in these matters of STEM education and the potential for advancements in future research and development. At the same time, this commitment is not new. Specifically, it is opening a one-sided commitment that we were warned against over sixty years ago when a similar motion was put into place in 1945 with the proposing of a new government agency, The National Science Foundation (NSF).

In July of 1945 Vannevar Bush, The Director of the Office of Scientific Research and Development under Presidents Roosevelt and Truman, wrote a report titled "Science the Endless Frontier" that would eventually become the basis of NSF a few years later. The report, as you would expect, made a strong case for governmental support of basic research leading to innovation that would draw upon public funding to make the U.S. the premier nation in scientific research and development. The rest, as they say, is history as the NSF has become one of the most highly funded foundations in the world receiving in 2009 over 6 billion dollars with an additional one-time stimulus award of 3 billion dollars.

In Bush's report, however, there was a strong comment made about what he called "science's proportionate share" in public financial support. In a section of the report under the heading "A Note of Warning," Bush stated,

It would be folly to set up a program under which research in the natural sciences and medicine was expanded at the cost of the social sciences, humanities, and other studies so essential to national well-being. This point has been well stated by the Moe Committee as follows:

“As citizens, as good citizens, we therefore think that we must have in mind while examining the question before us—the discovery and development of scientific talent—the needs of the whole national welfare. We could not suggest to you a program which would syphon into science and technology a disproportionately large share of the nation’s highest abilities, without doing harm to the nation, nor, indeed, without crippling science. Science cannot live by and unto itself alone . . . There is never enough ability at high levels to satisfy all the needs of the nation; we would not seek to draw into science any more of it than science’s proportionate share.” (para. 1–3)

Somehow in the years following Vannevar Bush’s thoughtful commentary we have lost our bearings in regard to the proportionate share of funding provided to the humanities, arts, and social sciences (what I will refer to in the remainder of this essay as HASS). At present, the combined allotments to The National Endowment for the Humanities (NEH) and the National Endowment for the Arts (NEA) is about \$330 million. This imbalance is even more stunning when we add the government allotments to the National Institutes of Health of over \$30 billion provided for 2009–2010. In short, government funding through these flagship foundations of the arts and humanities isn’t even in the proverbial government funding ballpark, and pretty much not even in the sandlot. Further, when the U.S. Senate proposed \$50 million of stimulus money for the arts last year, there was an outcry in Congress that nearly stalled this miniscule proportion of the \$775 billion American Recovery Act (ARA) package. It finally passed, but only when attached to an unrelated bill.

## **Rethinking the Balancing Act**

Reasons for this imbalance have been the result of various factors over the years, but there have been at least two constants driving the imbalance: (a) The desire for the U.S. to be the world’s premier superpower, and (b) the consistent argument by the sciences that we are continually lacking in youth who pursue careers in the sciences and related fields like engineering and technology.

The beginnings of NSF were rooted in promoting the notion of “basic research” in the sciences. At the beginnings of NSF there was a paucity of resources allotted by the government to basic research in the sciences as such research was seen as within the province of universities and corporations. The whole enterprise surrounding the development of the atomic bomb, however, changed all of that about ten years before the NSF was born. The basic research needed to create the bomb engrossed the government in support of intensive scientific research at levels never seen before, and that could never have come

from university or corporate coffers as the financial support was needed quickly and, in the case of atomic bomb development, secretly. Starting with a humble budget of \$6,000 in 1942, The Uranium Committee of the Roosevelt administration grew to the eventual \$2+ billion expended by 1945 for the Manhattan Project and the dropping of the bombs on Japan. Following this auspicious beginning, scientific research gained momentum through the founding of the NSF and other related government agencies. Not surprisingly, the Cold War and its insatiable need for military build-up, the Space program and the race to put a human on the moon, and growing concerns over increased funding for research in health and medicine have contributed to the growing support of scientific research to aid America's worldwide leadership role.

Linked to this ongoing endeavor to uphold America's status has been the call for more scientists, engineers, and technologists to carry forward the mission. Thus, NSF and many other foundations have developed virtually innumerable educational programs to promote the sciences to the country's youth. These projects run from formal initiatives developing curriculum and academic programs in K-20 and graduate classrooms to informal, public interest initiatives that operate through television, hands-on demonstrations, summer workshops, and a variety of other venues.

In short, the effort to engage youth in STEM has been intense for well over fifty years, and in fact the government's "turn to the sciences" has taken on epic proportions. The call for more money to support STEM education is, as Obama's speech demonstrates, very strong. This acronym of science and engineering holds sway under the banner of supposed national deficiencies in scientists, mathematicians, and engineers. Ever since Vannevar Bush's argument for a national effort encouraging individuals to pursue science and technology careers in measured ways, the acronym associated with STEM has gone beyond measure by funneling untold billions of dollars toward convincing more youths that STEM is both what they need and what the country needs.

Yet, we still pump the money endlessly into this endeavor with few accounts as to its effectiveness. When was the last time we heard that we have gotten closer to the goals of more STEM teachers and practitioners; that the nation is "winning the war" of providing us with more scientists and engineers? Instead, we most often hear that we are far short of the STEM needs and goals. Thus, more calls come for grants to take the project into the future with few calls for even a fraction of this number in HASS.

It is clear that we will need more scientists and technologists. That is the way of the world in the 21st century. We also need more humanists, artists, and social scientists who study the past, speculate on the future, and make things of aesthetic and functional beauty. Just as importantly, we need scientists,

engineers, and technologists who fill the needs of “the whole national welfare”: scientists who strongly wed their expertise and knowledge with knowledge of HASS so that science does not, as Bush warned, attempt “to live by and onto itself alone.” Clearly, we need in our present time, desperately, to reset our bearings.

But how might we begin a process of re-navigating? There are many possibilities to this end, but one at the forefront would be to bring the scientists and technologists together with those in HASS within a meaningful context. One such context is the realm of ethics: one of the most challenging, but potentially most rewarding for scholars, researchers, developers, and the general public.

## **Building a Base for “Good Science” with HASS**

Redistributing some of the resources from the sciences to the humanities and arts will require, to an extent, pronouncements from the top, just as President Obama has done for the furthering of scientific research and education. This work can, and already is being brought to the national arena in some small ways, but it has to be enlarged and strengthened. For example, the phrase “good science” has brought forward the issues of ideology and bias that has clouded problems of environmental degradation and biomedical research. Thus, politicians, scientists, educators, and foundation managers have latched on to this phrase as a way to demonstrate to policy makers and the general public what science is, in part, all about: free and open inquiry that attempts to understand the world and life without being directed by preconceived notions of what is good or bad.

Missing in many discussions of good science, however, is the notion of practical ethics: the activity of truly embedding ethical theory, methods, and practices into the entire cycle of scientific and technological research and development. Of course, ethics often is brought up in terms of ethical imperatives for science, such as having an ethical obligation to control global warming or to find new cures for debilitating diseases. But such use of ethics in these conversations rarely turns ethics toward science itself in ways that rigorously question science *before the fact* rather than after all of the research, experimentation, and implementation are over and the resulting products of science and technology have been unleashed into the world.

Ethics is about looking into the future and is very much within the province of HASS, but voices of the philosophers, rhetoricians, literary critics, creative writers, and historians are often absent in any meaningful ways. For instance, in 1999 two worldwide summits were held in Anaheim, CA and Budapest, Hungary that brought together “the largest, most diverse gatherings of scientists in history” (Tobias, Timmers, & Wright, 2003). Over 6,000 scientists and policy makers

delivered papers, entered into numerous conversations and interviews with the media, and covered just about every imaginable major topic in scientific research. Interestingly, ethics was on the lips of many of these scientists and was bandied about through many of the papers and presentations, but in terms of actually focusing on ethics there was only one panel devoted to the topic, and in that panel there was only one ethicist who took part: Margaret Somerville of McGill University.

In *A Parliament of Science: Science for the 21st Century* (2003), a published collection of interviews conducted at the two summits by Michael Tobias, Teun Timmers, and Gill Wright, Dr. Somerville had this to say about her experience:

In the session on ethics at the *World Conference on Science*, I was the only ethicist who spoke. The other people talked about issues that raised ethical concerns, but that's different from doing ethics . . . Most people, when they first encounter ethics, particularly scientists, see it as something of an add-on. But ethics has to be embedded in the science. I call it "doing science in ethics time," not just doing ethics in science time. Unethical science is bad science no matter how much you discover in doing it. Good science has good ethics. (p.161)

Actually "doing ethics" will not only take commitment and buy-in among scientists and technologists, but it will also take material resources. Placing ethical action across the research and development spectrum and building it into the educational goals of STEM will be costly in the short-term. Gathering public input, developing STEM curricula that incorporates practical ethics, evaluating the ethical problems in development processes, and then testing potential products before they are put into place is not something contemporary science, and especially technology, are used to doing. However, the long-term benefits can be substantial. We will never know until we try, and the effort is certainly worth the costs if the outcomes of science and technology are truly going to benefit the whole of life, life that includes more than just humans. HASS specialists, however, will have to be at the table to make good science happen, writ large, in a meaningful way. This would be just one step, but indeed an important one, toward reclaiming balance in our intellectual, educational, and research endeavors.

## **Acknowledgement**

Another version of this essay will be forthcoming in 2010 in *The Pantaneto Forum*, an online journal from the United Kingdom dedicated to communication and education in science and technology: <http://www.pantaneto.co.uk>.

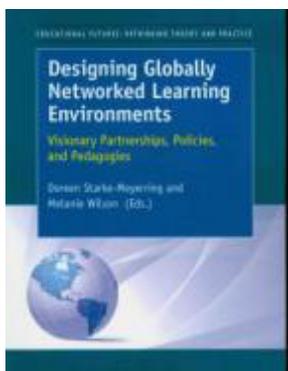
## References

- Bush, Vannevar. (1945). *Science the endless frontier: A report to the President*. Washington DC: U.S. Government Printing Office. Retrieved February 26, 2010, from <http://www.nsf.gov/od/lpa/nsf50/vbush1945.htm>
- Obama, Barack. (2009, April 27). *Remarks by the President at the National Academy of Sciences Annual Meeting*. National Academy of Sciences. Washington DC. Retrieved February 26, 2010, from [http://www.whitehouse.gov/the\\_press\\_office/Remarks-by-the-President-at-the-National-Academy-of-Sciences-Annual-Meeting/](http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-at-the-National-Academy-of-Sciences-Annual-Meeting/)
- Somerville, Margaret. (2003). "Doing science in ethics time." In Michael Tobias, Teun Timmers, & Gill Wright (Eds.), *A parliament of science: Science for the 21st century* (pp. 154–161). Albany: State University of New York Press.

---

## Author Information

Robert R. Johnson is a professor of Rhetoric, Composition, and Technical Communication at Michigan Technological University. Most recently, he has published or has articles forthcoming in *Technical Communication Quarterly*, *The New Atlantis*, *The Pantaneto Forum*, *College Composition and Communication*, and *The Believer*, a monthly publication of McSweeney's Press. His book, *Romancing the Atom: Vignettes of the Atomic Mindset From the Radium Girls to Nuclear Green*, is forthcoming from Praeger Press in 2011.



## ***Designing Globally Networked Learning Environments: Visionary Partnerships, Policies, and Pedagogies***

*Editors*

Doreen Starke-Meyerring  
Melanie Wilson

Rotterdam, Netherlands  
Sense Publishers  
2008. 252 pp.

**Reviewed by Geoffrey Sauer**

*Iowa State University*

### **Methods for Globally Networked Learning Environments as an Emerging Pedagogy: A First Vision**

**J**ohn U. Ogbu wrote in the 1982 that U.S. schools had been created on the model of the 19th-century factory shopfloor—with a manager in front and students working in rows, diligently toiling under supervision. This was no accident, he argued: the United States has dedicated its education system to preparing employees for the workplace. Ogbu's early work problematized vestigial modes of teaching, which he argued remain in the contemporary classroom against even modern employers' needs for collaboration, creativity, and diversity, and he advised that we should seek to rethink our pedagogy in light of this realization. In that context, Doreen Starke-Meyerring and Melanie Wilson's 2008 anthology *Designing Globally Networked Learning Environments: Visionary Partnerships, Policies, and Pedagogies* can be seen as a substantial further corrective to limited traditional educational models, including some common today in business and technical communication courses.

Globally Networked Learning Environments (GNLEs), as defined by the editors, are partnerships that encourage students to collaborate with (and learn about) students in classrooms elsewhere on the planet. This anthology features

---

*Programmatic Perspectives*, 2(1), March 2010: 93–95. Contact author: <gsauer@iastate.edu>.

fourteen case studies of such partnerships written by scholars (including several well-known in the technical communication field) who describe their partnerships with sister schools abroad, how they have adjusted their courses to accommodate teleconferencing and asynchronous collaborations, issues which arise in intercultural collaborations, and the revisions to course policies that have emerged as a result of these efforts.

The editors, in their introduction, suggest a number of reasons this sort of pedagogy should be integrated into our curricula. Many of these may appear obvious: increasing globalization has changed the workplaces students will enter after graduation, and many curricula in business and technical communication have done little to educate our students for the scope of this change. But it is also clear that the editors understand how difficult it would be for any instructor to deduce how to create partnerships and update our courses' policies and pedagogies to create GNLEs in our own programs without the benefit of examples. For programs or instructors persuaded by the arguments and case studies listed here, this book provides a dozen diverse examples of how others have attempted to begin such changes in their own programs.

Several of the chapters explore issues that emerge in trans-Atlantic partnerships with European partners, including chapters by TyAnna Herrington, Bruce Maylath et al., Kennon, and Mousten et al., all of which provide examples of these experiences. Other chapters investigate partnerships with schools in Asia—chapters by Rainey et al., and Du-Babcock and Varner both address experience with Chinese universities. A few chapters address collaboration with Central American partnerships; Crabtree et al., Fitch et al., and McCool all speak to experiences with GNLEs between classrooms in the United States, Mexico, and Nicaragua. A few chapters speak to theoretical issues which inhere in any such collaboration, including communication with students for whom English is a second or third language, and reviews of the literature to provide overviews of common issues which emerge in such collaborations.

The chapters provide, once one delves into them, numerous teaching techniques one might employ to create effective change in our courses. Teaching students to learn other languages and to consider their own uses of idiomatic English, incorporating face-to-face meetings among the faculty in the respective programs, discussing educational technologies and planning for their development, use, and future obsolescence, incorporating administrators into curricular planning, negotiating collaborative projects, post-learning reports, and many other techniques are discussed in the chapters, with an apparent forthrightness about which met with greater success than others.

Although the case studies in this volume only discuss partnerships in the northern hemisphere, this is perhaps understandable given arguments such as

Paul Smith's (1997) from *Millennial Dreams* that capitalism has developed in the northern hemisphere to an exclusion of the South. But it seems clear that this anthology does not intentionally exclude such prospects, but instead develops arguments from examples of current collaborations. It seems likely that future collaborations with South America and Africa may well also be possible using the methodologies developed here.

The editors are working diligently to introduce GNLE as an accepted mode of education. The book appears to be an early attempt to define the scope and nature of GNLE theory and practice. Doreen Starke-Meyerring is also editing a special issue of the *Journal of Business and Technical Communication* on this topic due in 2010, with additional articles by scholars who work to create and maintain GNLEs. If the editors are successful in their arguments, we can expect to see more research about this pedagogy, and may find the discussion begun with this text quite useful to our research, our classrooms, and our students.

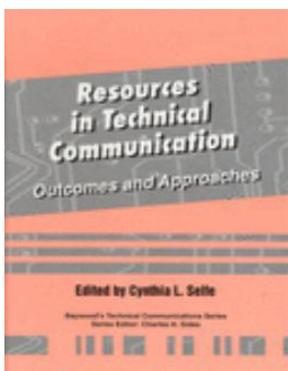
## References

- Ogbu, John U. (1982). Cultural Discontinuities and Schooling. *Anthropology & Education*, 13(4), pp. 290–307.
- Smith, Paul M. (1997). *Millennial Dreams: Contemporary Culture and Capital in the North*. London: Verso.

---

### Author Information

Geoffrey Sauer is an assistant professor in the Rhetoric and Professional Communication Program in the English Department at Iowa State University. He teaches courses in rhetorical theory, multimedia production, intellectual property, and cultural theory, leading him to research in usability, user-centered design, user experience design, and interaction design. He is the director of the EServer, a nonprofit online publishing venture in the arts and humanities. He is also the director of the ISU Studio for New Media, an interdisciplinary research institute organized to support, further, and coordinate work with digital media currently done by individuals across multiple departments at Iowa State University.



## ***Resources in Technical Communication: Outcomes and Approaches***

*Editor*  
Cynthia L. Selfe

Amityville, NY  
Baywood Publishing Company, Inc.  
2007. 350 pp.

### **Reviewed by Nancy W. Coppola**

*New Jersey Institute of Technology*

Cynthia Selfe developed *Resources in Technical Communication* with a very specific purpose and audience in mind—to provide resources on key performance outcomes so teachers of introductory technical communication courses may assemble a set of outcomes for their local situation. She does an excellent job of fitting the volume’s pedagogical framework to her specified rhetorical context. But there are other audiences and purposes for this book, especially program administrators who need to develop and assess programmatic outcomes and manage program faculty.

Selfe’s accessible and obvious format makes this text especially easy to use as a rich resource to return to for inspiration and innovation. Common organizational features—and the fact that all authors have taught or studied at Michigan Technological University—give structure to the text. Each chapter begins with a statement of key performance outcomes around which assignments might be structured, then moves to arguments from business and industry leaders that support the importance of the particular performance outcomes, followed by an examination of outcomes from academic research perspectives. Each chapter concludes with a practical overview of assignments targeted to the performance outcome that also explains how experienced teachers work through the assignment sequence, and then assignment worksheets, materials, and samples of student work.

Selfe's pragmatic approach fits the realistic world of teachers and students in introductory technical communication courses, many of whom wish they were somewhere else. The business and industry reports of importance of performance outcomes, for example, help persuade the recalcitrant student who is required to take the intro course. The edited collection speaks to influencing new teachers as well as the reluctant students; academic findings in each chapter are intended to help teachers understand why they would want to shape a course around any set of outcomes.

Program directors who need to enlist instructors for their programs may face resistance from those who find technical communication courses less than engaging or creative. This teacher might embrace Tracy Bridgeford's approach to establishing a community of practice in the classroom that requires students to read a novel. The chapter outcomes are also specialized skill sets not often treated in technical communication textbooks—to communicate effectively within and among communities of practice, demonstrating understanding of how these communities work, how they establish expectations for membership, and how they agree on rules for negotiating meaning. Bridgeford, noting time limitations as a difficulty with creating and sustaining a community of practice within academic contexts, finds that students must add their own practice stories to become members of a community. To provide students with opportunities to enter a community of practice as a newcomer and move to experienced member while contributing their own practice stories, Bridgeford requires students to read a novel. Two assignment sequences, based on the novel as the community's body of knowledge, allow students to learn imaginatively how to participate in the practices of a community and to recognize how tacit knowledge is shared and interpreted.

In this collection, program administrators may also find ways to implement a contemporary performance outcome in their curricula. For example, we who are concerned with ways to introduce innovative new media approaches would benefit from Anne Wysocki's excellent chapter "Using design approaches to help students develop engaging and effective materials that teach scientific and technical concepts." Wysocki presents compelling arguments from business and industry to demonstrate that people who think as designers function well as a knowledge worker in the new work environments. Her academic research cites contemporary resources that show the design process as meaning making, which is embedded in cultural practices and multimodal and multimedia. The assignment overview and materials are transparent and immediately applicable. A teacher could take these 13 pages and transfer them directly into the classroom. With words that an instructor might use to introduce the assignment—"Why I ask you to do this"—Wysocki takes time to lay out how

students might react to this assignment, the course structure, and performance outcomes. She provides two projects with handouts for both in-class and at-home assignments, photos of student deliverables, and rubrics for evaluating each project.

Program administrators might read the text as a resource for key performance outcomes for a technical, scientific, or professional communication program. Twenty authors, who are experienced teachers and/or recognized scholars, have created 17 chapters that are arranged in three thematic sections. In Section 1 of the volume, the focus is on rhetorical understanding with these authors and outcomes: Summer Smith Taylor and Art Young, understanding written communication as a problem-solving activity; James Kalmbach, conceptualizing reports as collections of rhetorical practices and improvisational strategies; Jennifer Sheppard, understanding the value of research; and Michael R. Moore, identifying contemporary contexts and issues in copyright and fair use. Section 2, with its focus on sociocultural understanding, features these authors and outcomes: Gerald J. Savage and Teresa Kynell Hunt, analyzing contexts of writing tasks within organizations; Peter Praetorius, developing interpersonal communication and understanding of organizational culture; Richard J. Selfe, understanding factors that shape the technology-rich spaces in which they create and exchange texts; and Ann Kitalong-Will, understanding how audiences construct communal knowledge bases in digital contexts. Section 3 focuses on the complexities of practice in chapters by these authors and with these outcomes: Johndan Johnson-Eilola and Stuart A. Selber, developing a holistic understanding of usability; Michael Martin, making ethical decisions in technical communication practices; Karla Saari Kitalong, selecting, interpreting, and producing graphics for technical documents; Patricia Freitag Ericsson, developing effective strategies for listening to and evaluating oral presentations; Gary Bays, speaking and listening in the workplace; Danielle Nicole DeVoss, understanding the elements of editing; and Marilyn M. Copper, evoking the contexts in which documents are used and working with readers to understand their needs.

When read as a whole, the volume might be considered a collection of core competencies for technical communicators. This is no small matter for those of us who determine what students are supposed to know when they graduate into practice. Our field has no collection of empirically based and nationally recognized core competencies comparable to that developed in other fields. Without a defined set of specialized skills, abilities, and knowledge, we are not a profession. One professional organization has worked to locate, classify, and make accessible the core competencies that sustain a body of knowledge for our field. For the past 24 months, STC has been developing a web-based

Technical Communication Knowledge Portal where program administrators are especially encouraged to contribute to the wiki describing and enumerating key competencies that most academic programs should address.<sup>1</sup>

Only when a faculty group identifies the learning outcomes and expectations for their program can their program be assessed in any meaningful way. Here, CPTSC has made significant contribution to assessment research with its committees on program review and assessment. Each program needs to carefully select the core competencies that are right for them. Selfe makes this contextualization clear as she recommends that teachers assemble a set of outcomes tailored for their local student populations, department goals, and institutional missions.

One of the most difficult aspects of our roles as program directors is finding materials that we can pass along to our programmatic colleagues to illustrate the point we are trying to make. *Resources in Technical Communication* provides not only a macro view of learning outcomes along with business approval and research/theory support but also the granular level of implementation of the learning environments needed to enact assignments and the nitty-gritty of assignments and materials. I strongly recommend this book for program administrators.

---

### **Author Information**

Nancy W. Coppola is professor of English and founding director of the Master of Science in Professional and Technical Communication at New Jersey Institute of Technology (NJIT).

---

<sup>1</sup>Wiki available at <<http://stcbok.editme.com/corecompetencies>>.

## **CPTSC/ATTW Enschede 2010 Roundtable**

CPTSC and the ATTW Committee on International Issues will co-sponsor the CPTSC/ATTW Enschede 2010 Roundtable at the University of Twente in Enschede, the Netherlands. The Roundtable will be held in conjunction with the International Professional Communication Conference (IPCC), 7–9 July, 2010 and is a follow-up to Roundtables held in London in 2000, Milan in 2003, Limerick in 2005, and Montreal in 2008. Roundtables offer educators the opportunity to discuss program partnerships, updates to curricula and teaching methods, and a world focus.

The history of previous Roundtables can be found at <http://www.cptsc.org/international.html>. To participate, please contact Bruce Maylath by phone at 1-701-231-7176, or email at [Bruce.Maylath@ndsu.edu](mailto:Bruce.Maylath@ndsu.edu). Information about the 2010 IPCC is available at <http://ewh.ieee.org/soc/pcs/index.php?q=node/843>.

## **Dates Announced for 2010 CPTSC Conference in Boise, Idaho**

On behalf of the Department of English at Boise State University, it is my pleasure to announce the dates for the 2010 CPTSC conference. Please join us in Boise from Thursday, September 30, through Saturday, October 2.

Boise is the southwest corner of Idaho, about one hour from the border with Oregon. The Boise River separates the BSU campus from the downtown parks. Early autumn is a great time to enjoy our downtown, our extensive trails in the foothills, our parks, and our Greenbelt along the river. See the links below for pictures and other info.

<http://www.boise.org/>

<http://www.boisestate.edu/>

More information will be posted at [cpts.org/annual.html](http://cpts.org/annual.html) as it becomes available.

Boise's airport (BOI) is served by several major carriers and is only 5 minutes away from the campus/downtown area. Registration and lodging information will be posted closer to the conference date.

I hope you will be able to join us this fall.

Russell Willerton  
Local Arrangements Chair, CPTSC 2010