

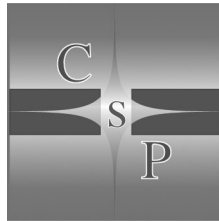
# Sustaining Excellence in ‘Communicating across the Curriculum’



Sustaining Excellence in ‘Communicating across  
the Curriculum’  
Cross-Institutional Experiences and Best Practices

Edited by

Nagwa Kassabgy and Amani Elshimi



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# TABLE OF CONTENTS

Foreword ..... vii

## **Section 1: *Issues of initiating and sustaining CAC programs***

Warp and weft: Reflections on the art of communication weaving..... 2  
Chris M. Anson

Discerning research across the curriculum ..... 19  
Fred L. Perry, Jr.

## **Section 2: Best practices in promoting communication skills**

Writing beyond disciplinary discourse: Power and politics  
in the teaching of scientific writing ..... 24  
Mya Poe

Writing in anger: Emotions and the revision process in writing  
across the curriculum..... 37  
Wendy Ryden

Using the business section of a local newspaper in teaching English  
for business studies..... 51  
James Moody

Apprentice writers across the curriculum ..... 69  
Cynthia May Sheikholeslami

Bringing schools to life: cross-class questioning and dialogue  
across the curriculum..... 86  
Jeremy David Bendik-Keymer

Low stakes writing and speaking: Using everyday tasks to boost  
student abilities..... 101  
Mohanalakshmi Rajakumar

Training writing teachers in the implicit knowledge underlying writing assignments .....	111
David Kaufer, Suguru Ishizaki, and Amal Al-Malki	

### **Section 3: The Macro-level: Communicating to foster holistic development**

Principles and methodologies of a global language teaching program – A proposal .....	128
Anil Sarwal	
Cultivating spiritual intelligence within education .....	147
Nancy Doetzel	
Proactive planning against plagiarism .....	156
Michael Bowen	
Transformative pedagogies for cultural difference and inclusive schooling .....	164
Fethi Mansouri	
About the Contributors .....	190

## FOREWORD

This book presents an anthology of articles which were initially presented at a professional development conference, “On the Road to Sustainable Excellence: Communicating across the Curriculum,” held at the American University in Cairo, November 11-12, 2005.

In the early 1960’s a ‘Language across the Curriculum’ (LAC) movement started in the United Kingdom, with an emphasis on increasing and enhancing writing quality in the various disciplines. In the 1970’s and 1980’s the term ‘Writing across the Curriculum’ (WAC) came in vogue, gaining popularity in the US and, to an extent, Canada.

Donna Reiss defines ‘Communicating across the Curriculum’ (CAC) as “an expansion of the writing-across-the-curriculum movement that broadens the focus from written communication to all other forms of communication, including oral and visual. Although writing continues to be viewed as central to teaching and learning, it is joined in an interactive social process with other forms of communication to promote critical thinking, collaboration, and problem-solving within and across disciplines” (ECAC, 1996).

This book emphasizes ways in which communication skills (written, oral, visual and digital) are used to enhance the learning process in the disciplines. Specifically, it presents experiences and best practices from institutions in various cultures – the United States, Turkey, India, Egypt, Qatar, United Arab Emirates and Australia. Related pedagogical issues that affect engagement - critical inquiry, creativity and integrity - are given prominence. The title “Sustaining Excellence in Communicating across the Curriculum: Cross-Institutional Experiences and Best Practices,” thus, provides a framework for the variety of practices that foster student empowerment, cultivate ownership of expression, and sustain learning excellence within and across disciplines. Outlined below are the details of each chapter within the three broad sections of this volume:

## Section 1

### *Issues of initiating and sustaining CAC programs*

This section relates to methodologies of CAC programs for those who wish to establish, as well as those who strive to sustain, CAC programs at their institutions.

### **Warp and weft: Reflections on the art of communication weaving**

Chris M. Anson, Professor of English and Director of the Campus Writing and Speaking Program at North Carolina State University

Writing and speaking are threads weaving elaborately through our instruction, winding around our subject matters, and tying our disciplines together. This chapter will extend the metaphor to consider five areas crucial to the development and maintenance of communication-across-the-curriculum programs: method, use, technology, design, and sustainability.

### **Discerning research across the curriculum**

Fred L. Perry, Jr., Professor of Educational Psychology, The American University in Cairo

While disciplinary writing practices may provide support and credibility to WAC theory, scholarly research in the field has often been celebrated without adequate scrutiny. This chapter provides a critique of WAC research methodology and offers strategies to promote critical discernment of research.

## Section 2

### *Best practices in promoting communication skills*

This section presents classroom successes from different cultural contexts.

### **Writing beyond disciplinary discourse: Power and politics in the teaching of scientific writing**

Mya Poe, Director of Technical Communication, Massachusetts Institute of Technology

This chapter discusses some of the challenges of international scientific publishing and suggests ways to prepare students for those challenges. One approach is to expand writing-in-the-disciplines pedagogies to address the globally-situated nature of current scientific publishing.

**Writing in anger: Emotions and the revision process in writing across the curriculum**

Wendy Ryden, Assistant Professor of English, and Coordinator of Writing across the Curriculum, Long Island University

Scholarship in Composition and Rhetoric has increasingly paid attention to the role of emotions in writing and critical pedagogy. This chapter analyzes the attention WAC theory gives to the pathetic dimension of rhetoric in regard to composing and revision strategies.

**Using the business section of a local newspaper in teaching English for business studies**

James Moody, Lecturer, Sultan Qaboos University, Oman

Educational reforms in Qatar promote the increasing use of English. It is, in fact, the medium of instruction in most university courses. This paper relates the experience of using the business pages of a local English-language newspaper to enhance discipline-specific reading and writing for university business students. From an analysis of 15 issues of the *Doha Peninsula* during May and June 2005, suggestions are made for using newspapers in the classroom.

**Apprentice writers across the curriculum**

Cynthia May Sheikholeslami, English Language Instructor, English Language Institute, the American University in Cairo

This chapter analyzes student writing in several disciplines and discusses evaluation criteria to assist student apprentice writers to move towards mastery of genres used in and beyond the university.

**Low stakes writing and speaking: Using everyday tasks to boost student abilities**

Mohanalakshmi Rajakumar, University of Florida

Exploring the importance of low stakes writing and speaking exercises, this chapter presents pedagogical theories behind process oriented writing, and offers suggestions for faculty to implement WAC principles in their courses.

**Training writing teachers in the implicit knowledge underlying writing assignments**

David Kaufer, Suguru Ishizaki, Amal Al-Malki, Carnegie Mellon University, Pittsburgh

Writing assignments are composed not only of the prompts teachers use to motivate students, and not only the knowledge that emerges when

teachers explain and elaborate the prompts. They consist of deeper implicit and hard-to-access knowledge that becomes available only in the systematic analysis of writing samples drawn from an assignment. This chapter provides an example of the use of new technology that seeks to extract this implicit knowledge and re-incorporate it into the explicit knowledge of the classroom, specifically comparing the writing assignments of students in Pittsburgh and Doha.

### **Bringing schools to life: cross-class questioning and dialogue across the curriculum**

Jeremy David Bendik-Keymer, The American University of Sharjah, United Arab Emirates

Imagine classes stepping outside themselves and asking other classes questions because the questioners' inquiries have led them beyond disciplinary boundaries. This chapter presents an example from the American University of Sharjah, where an environmental ethics class engages a sociology class in cross-class questioning on the nature of society. The chapter focuses on six lessons the example teaches, the first five of which explore the relationship between dialogue and autonomy. The sixth shows how cross-class questioning opens up a novel sense of "communicating across the curriculum."

## **Section 3**

### *The Macro-level: Communicating to foster holistic development*

This section connects communication skills to the values of global learning, spiritual enhancement, integrity and diversity – values and functions that communication in the disciplines aims to serve.

### **Principles and methodologies of a global language teaching program – A proposal**

Anil Sarwal, Dayanand Anglo Vedic (DAV) College, India

English has emerged as the *de facto* global language for universal communication in the closing years of the twentieth century. Whereas languages have been traditionally taught from the view point of their cultures, new methodologies and materials now have to be designed to meet communication needs of global language learners. This chapter suggests a value-based, human-centric, and learner-centred language teaching approach (Developmental Language Teaching) incorporating communication functions recommended by the UNESCO Task Force on

Learning in the 21<sup>st</sup> Century - learning to learn, learning to do, learning to live together and learning to be.

### **Cultivating spiritual intelligence within education**

Nancy Doetzel, University of Calgary, Canada

Muting discourses about spirituality within educational systems and other workplaces runs the risk of generating spiritual illiteracy and moral confusion. This chapter examines the literature on spirituality in education, giving insight into recent course trends, on-line interactive communication about spiritual issues, and Public School Boards dialoguing about religion and spirituality. Additionally, the literature and research findings suggest that the resurgence of spiritual values has occurred in unison with some leadership reform incentives within the public school system, specifically in Canada.

### **Proactive planning against plagiarism**

Michael Bowen, Rhetoric and Composition Program, The American University in Cairo

The “policing” of plagiarism places educators in an uncomfortable adversarial role, which threatens mentoring relationships. This chapter focuses on the ethics of academic communication, presenting best practices, through which instructors can take a proactive pedagogical approach at root causes and turn cases of “suspected plagiarism” into positive teaching/learning opportunities.

### **Transformative pedagogies for cultural difference and inclusive schooling**

Fethi Mansouri, Deakin University, Australia

This chapter discusses the social and cultural dimensions of the educational experiences of Arab-Australian students. It seeks to explore the cultural attitudes and the social experiences of Arab-Australian secondary school students from two schools situated in Melbourne’s northern region. The chapter discusses how Arab-Australian students and their families understand and construct their own social and educational experiences in relation to wider social discourses. The initial findings suggest that there are critical links between Arab-Australian students’ perceptions of belonging and identity on the one hand, and their attitudes to schooling and educational experiences on the other.

Scholars of CAC, teachers concerned with active, engaging pedagogies across the disciplines, and applied linguists will find this anthology

particularly appealing. The culture-specific experiences are intriguing, highlighting surprising similarities and differences in the application of CAC theory.

Nagwa Kassabgy and Amani Elshimi

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**SECTION 1:**

**ISSUES OF INITIATING  
AND SUSTAINING CAC PROGRAMS**

# WARP AND WEFT: REFLECTIONS ON THE ART OF COMMUNICATION WEAVING

CHRIS M. ANSON

According to recent anthropological research, the art of weaving may be at least 27,000 years old, over five times older than some previous estimates. This research shows that early Paleolithic peoples employed "a huge variety of fine weaving techniques, including open and closed twines and plain weave, basketry and nets" (BBC, 2006; see Sofer, 2004).

Creating things out of thread has in common with language a long history stretching back to the earliest people; a rich cultural and geographical diversity; an impressive array of techniques and methods; and an extensive range of functions and types. Because the process of weaving involves elements of design, craftsmanship, utility, invention, and the syntax that comes from various ways to interlock threads into a pattern, it can be said to have affinities with language, sharing some of its features and reflecting aspects of its development over time.

In educational contexts, writing and speaking are threads that weave elaborately through our instruction, connecting together different areas of thought, winding around our subject matters, and tying our disciplines together. Those threads—the threads of language—are so important to human intellectual activity that almost nothing in education can proceed without them. Yet although language is the primary medium through which teaching takes place, it is too often neglected as a more direct method for enhancing student learning and the ability to express that learning in unique ways. As a movement, communication across the curriculum (CAC) tries to restore attention to writing and speaking in all disciplines and areas of study in our complex and multifaceted institutions.

Interest in the integration of communication instruction into higher education is burgeoning internationally. As leaders at institutions in many countries consider how best to increase attention to writing, speaking, and digital literacies in their programs and curricula, it is helpful to revisit

several critical areas that have played an important role in the establishment and growth of successful programs:

*Use:* What purposes can communication serve in the context of our courses and academic programs? How can we match the uses of writing to the missions, goals, and structures of our institutions?

*Method:* How can we design unique, innovative assignments and supporting activities that best realize the goals of particular academic courses? How can language activities encourage students to deepen their learning, create more active and engaged classrooms, and build stronger communication abilities?

*Technology:* In a world of rapidly developing digital support for communication, how can we best shape technology to our purposes without letting it subvert or overtake our emphasis on strong writing and speaking skills?

*Design:* What structural and curricular options might we consider in building a CAC program? How can we match our choices of program design to the academic cultures, missions, and administrative structures of our institutions?

*Sustainability:* How can we continue to develop the programs we build? How can we draw teachers and students into a CAC initiative, creating a "culture of communication" across our campuses?

Many CAC programs have failed because one or more of these crucial areas of concern were neglected. For example, without consistent attention to the needs of teachers and to the source of motivation for carrying out the activities associated with a CAC program, the program may not be sustainable. Without a principle of use to guide the implementation of CAC—tied to an institution's mission and curriculum—a program can become blurred in focus. Without attention to elements of design and structure, an otherwise systematic effort can turn into a random assortment of activities that lead to little enduring reform. Heuristically reflecting on each area offers us a way to create strong CAC programs whether in the formative stages of their development or in the ongoing maintenance and support of the effort.

## 1. Use

*The method of creating some of the first knotted pile rugs woven in Tibet, the Wangden Drumse, was for their use as meditation rugs—highly durable but also giving some degree of comfort while sitting. That weaving method would not be appropriate for creating a fine scarf in silk satin requiring perhaps 100 EPI (or ends per inch of warp threads)—exquisitely soft and translucent but not durable and not very functional.*

Method begins with use. In the development of CAC programs, the perceived uses of communication have usually shaped much of the program's structure and the nature of the activities it sponsors. On some campuses, teachers may be attracted to the goals of building skills and abilities; they want their students to become more proficient as writers, speakers, and users of information and communication technology. Often their goals find motivation in a context of vocationalism—to train students for the world of work. From such a perspective, teachers will be drawn to a use of communication activities that emphasizes formal, polished papers and reports, carefully delivered presentations, and clear, convincing, sometimes artful communication. This emphasis is often associated with the phrase *learning to write* (see McLeod, 2001, p. 5). The final products of writing and speaking will take on great importance, and will be evaluated as tests of ability.

In contrast, some teachers prefer to use communication activities not as output—not as artifacts to be judged for ability—but as *input*, as a means for learning the subject matter more fully, integrating it into existing knowledge. Unlike the emphasis in *learning to write*, such uses focus more sharply on how language can encourage students to connect with the subject matter and deepen their understanding of it (see Emig, 1977). The emphasis is on *writing to learn*, a use realized through informal, or low-stakes, kinds of communication such as short, overnight reflections, or what John Bean calls "microthemes" (Bean, 1996); brief, provocative scenarios or other problem-solving writing activities; informal conversations and focus groups in the class; or strategies in which randomly selected students must give two-minute oral summaries of their group's discussion or share something they wrote about in an overnight assignment. This use of communication in the service of learning often inspires creative, engaging, and thoughtful assignments from teachers because they are released from the bonds of stereotypical formal assignments passed down for generations, such as the traditional research paper.

In some classes and curricula, communication assignments may be used to realize goals beyond building skills or deepening and extending the learning of subject matter. For example, writing and/or speaking can be used to show students a process of reasoned deliberation and negotiation, tolerance, acceptance of divergent views, and a desire to explore complex issues in complex ways, rather than in simplistic dichotomies and unreflective dogma. Such uses are subtly tied to broader goals of intellectual and moral development. In the sciences and social sciences, writing may be used to help students to record phenomena or

behavior for later analysis. And in many fields, writing and speaking are used to encourage *reflection*, especially when students are exposed to new experiences (see Anson, 1998; Yancey, 1998).

The concept of use gives clarity and purpose to communication assignments and activities, helping us to understand their role in our instruction. Fully considered, use often leads to the articulation of *outcomes*—carefully, collaboratively produced sets of learning goals that, unlike general objectives, are both teachable and measurable. At the classroom level, outcomes should explicitly inform students about the ways in which communication activities connect with broader course goals and objectives. Consider, for example, the following outcomes from a class in philosophy and religion (Bykova, 2006):

By the end of the course, students will:

1. be familiar with the main philosophical concepts (of knowledge, will, reason, subject, and subjectivity) in European thought of the 19th century;
2. develop skills in analyzing primary philosophical texts;
3. know the main theoretical concepts developed by 19th-century philosophers and be able to recognize their significance for the whole philosophical tradition;
4. be able to read and respond to philosophical writing critically evaluating basic philosophical ideas and arguments;
5. be able to express a reasoned philosophical position both orally and in writing;
6. develop skills in writing scholarly papers;
7. write and speak with greater confidence about the nature of philosophical inquiry.

Here we see how specific uses for communication—for learning (Outcome 4), for academic work (Outcome 6), and for general communication abilities within the field and beyond (Outcomes 5 and 7)—become part of the fabric of the course.

Outcomes for communication can and should also inform an entire curriculum at a higher level. Like course outcomes, they are typically interwoven into the broader learning outcomes for students who specialize or major in a specific field. Consider the following excerpt from a two-page outcome statement in a Department of Food Science (2006); this represents the third of six outcomes, another of which focuses entirely on oral presentations.

Students should demonstrate the ability to understand, manage, and communicate source materials related to food science and technology.

- to show that they can effectively summarize source materials. *Evidence for assessment:* oral and written summaries; abstracts
- to show that they can synthesize, analyze, and come to conclusions from multiple source materials. *Evidence for assessment:* reviews of literature; introductions to scientific articles; research papers.
- to show that they can make an argument for a judgment or a proposed action based on source materials. *Evidence for assessment:* oral and written proposals; position papers
- to show that they can effectively translate food science technology to lay persons who need to understand and/or use the information and that they understand the relationship between the scientific and the popular press. *Evidence for assessment:* articles for the popular press; presentations to customers or users; fact sheets.

Here we see primarily professional uses of communication driving a strong emphasis in the Food Science Department on preparing students for successful careers. These outcomes, as we will see later in considering models of CAC programs, can help teachers to focus their course assignments and activities in ways that collectively achieve the goals of an entire curriculum.

Goals and outcomes for communication—at the class and curricular level—must always be understood in the context of the broader mission and academic culture of an institution. We weave different cloths; but we need to weave the best cloth we can for the uses to which it is put.

## 2. Method

*The variety of techniques used in the weaving of threaded materials is astonishing, from dovetailing and slit weave, to warp-faced and balanced weave, to brocade and complimentary weave, to complex gauze and two-faced and diamond twill, each unique in the way the warp and weft interact and how the threads are looped and knotted and repeated. These methods are uniquely tailored to the cultural and social contexts in which they are used and from which, in many cases, they emerged.*

Over time, the theory of communication across the curriculum has grown from a relatively simple proposition—that communication

instruction must be shared by all teachers in all courses (see Russell, 1991)—to a robust and diversified movement from which new ideas and strategies constantly emerge. In attending to method, we must consider the ways in which communication achieves particular goals, but the simple assigning or use of writing is not enough to guarantee success. We must also look for ways that specific assignments and activities can *support* student learning and skills development, and we must develop ways to assess how well the results meet our goals.

The instructional design model in Fig. 1 provides a simple but powerful way to think about method from the inception of an idea for an assignment or activity to the assessment of its effectiveness at reaching certain goals or outcomes. In this model, use takes the form of carefully reasoned and articulated learning goals or outcomes. Once these are established, principles of assignment design follow naturally, clarifying the scope, audience, genre, level of formality, style, domain of material, use of outside sources, and other parameters of the final text or presentation. In traditional assignment models, students are left to their own devices until their performance is evaluated. Supporting activities, before and during students' work on the assignment, are crucial if we want the experience to be more than simply a vehicle for evaluation. Such support might include brainstorming sessions, group work (especially in peer response and revision meetings), and practice with some of the intellectual and process-based activities that the assignment requires.

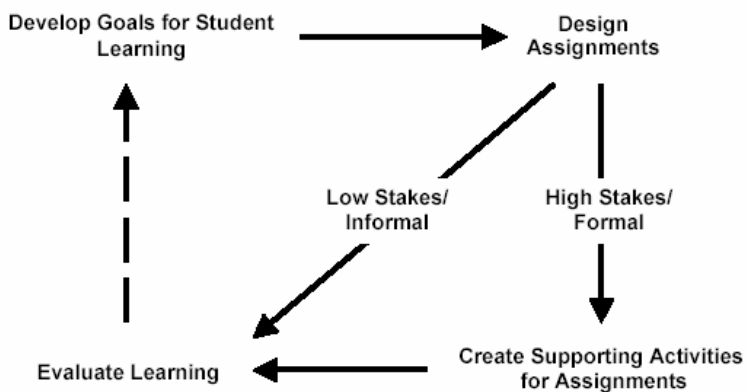


Fig. 1: Instructional Design Model

Finally, a variety of evaluation and response methods can help teachers to recognize whether students' work is accomplishing their assignment objectives, in addition to simply giving students a score or grade. This formative and developmental use of evaluation helps to weave communication assignments into instruction in ways that go beyond their use as tests of ability or accumulated knowledge (see Anson, in press).

Using the model, an instructor can create principled communication assignments to realize goals or outcomes, and at the same time support student learning through specific activities and processes related to the assignment. A teacher of civil engineering, for example, uses *multimedia poster sessions* to help students develop the skills of synthesis and presentation. Working from a set of goals and outcomes tied to professional work in the field, he asks students to convey information they have researched in a multimedia display (using one or more computers and large monitors). There is plentiful support for the creation of the presentation, including samples to critique and a practice session on which other students provide constructive feedback. The student must think deeply and rhetorically about what information to place on the computer(s) and in what form—textual, visual or graphic. Multimedia posters add a dimension of sound, moving images, and looping video. As other students and teachers move around a poster session, each presenter must selectively call attention to certain parts of the visual display.

As people drift toward and away from the display, the presenter must instantly reassess the presentation in progress, deciding what information to repeat for newcomers. In this way, rhetorical sensitivity is balanced with scrupulous attention to timing, so that the presentation becomes a kind of dance of information and language.

A teacher of history is experimenting with *hybrid genres*, new kinds of writing or speaking tailored to specific instructional goals. One such genre is the "annotated letter" or "annotated diary." In her class, students write a letter from one imaginary character to another, reflecting certain events or conflicts—it could be a young soldier fighting in a war, or a merchant during a serious economic crisis, or a person in power reflecting on what decision to make about a serious national issue. Embedded within this creative text, students must place footnotes explaining certain references in a more academic way. In electronic versions of these narratives, the footnotes are hyperlinks that open popup screens containing explanations and information. In this way, the student makes dry historical information come alive in an imagined voice but also demonstrates mastery of the historical information in the unobtrusive parallel text. Support for creating the annotated letter comes in the form of peer groups in which students

point to specific places in the imaginative letters where they feel they need an academic explanation or further background. The teacher also asks the students to read and discuss a problematic rough draft of an annotated letter from a previous class, noting places where the draft might be improved.

Driven by learning goals, many other methods readily present themselves, from imaginative cases and scenarios to brief, five-minute oral presentations with accompanying one page handouts, to various kinds of role-play and debate, even to the minimalist "minute paper," a method designed to collect students' thoughts in brief, compressed writing episodes of a minute or two (see Angelo and Cross, 1993, pp. 148-53). Research in economics education has shown that when students write for one minute at the end of each class session and the teacher collects and reads the papers, the students in the minute-paper sections score higher on the same tests of knowledge than those in the sections without the minute papers (Chizmar & Ostrosky, 1998). If this tiny silk thread of language activity—one minute per class—can achieve such results, we can only imagine what more extensive attention to communication can do to help students' learning. Brief but intellectually engaging assignments include *provided-data papers*, in which students are given random information or facts that they need to analyze and then reach some conclusion about (Bean, 1996); or *invented dialogues* between themselves and an author (even a dead one), or between two authors or two figures in history, dead or alive; or *magazine projects* in which students work in teams on editorial boards to produce a magazine on a specific topic, both writing their own articles and soliciting contributions from other class members, who are doing the same; or *lens papers*, in which students are assigned different lenses to "see" through which to see a reading or topic through, such as the lens of culture, the lens of gender, an economic lens, a political lens, an environmental lens, and then all sharing their various interpretations orally in class; or *topical brochures*, the compression of research into an artfully designed leaflet for a specific audience; or various kinds of group oral reports. The weaving of such engaging, learning-centered activities and assignments into our courses is limited only by the constraints of our imagination and creativity.

### **3. Technology**

*Beginning with the earliest nomadic people, who replaced animal skins with handknotted or woven threads for clothing, weaving soon evolved through the technology of primitive looms, which became larger and more elaborate, eventually able to mass-produce textiles in a fraction of the*

*time that it took by hand. Now sophisticated computer programs, like the Patternland Weave Simulator, allow for the unlimited manipulation of warp threads, weft picks, shafts, treadles and lift-plan rows to create an infinite variety of patterns and weaving styles. In fact, the loom and the computer are historically related. In 1740 Jacques de Vaucanson first used punch cards to control a loom. Later in 1801, Joseph-Marie Jacquard further developed this idea and simplified the automatic loom through a system of perforated cards. The holes in the cards controlled which shed rose in a particular pattern sequence—similar to the system of punch cards in early computers.*

Just as the industrialization of weaving has not entirely displaced the craftsmanship of handmade textiles, new computer technologies exist side by side with that ancient tool, the stylus, or pen, and the human voice. Yet clearly, communication across the curriculum remains inert and untheorized without attention to new technologies. It is no longer enough to assume that computers supplement or assist conventional modes of communication; in many ways, they have become those modes.

Early uses of computers to aid communication instruction were limited to drill and practice programs using CAI (computer-assisted instruction; see Olsen, 1985). At the same time, the personal computer transformed the ways in which students could compose, primarily through the advent of word processing and its assistance in revision (Hawisher, Selfe, Moran, & LeBlanc, 1995). But the advantages that freestanding computers offered to the teaching and learning of writing pale in comparison to what was enabled by the development of local computer networking, the Internet, and the World Wide Web. As Reiss & Young (2001) point out, in "ECAC," or electronic communication across the curriculum, opportunities abound "for WAC/CAC programs to expand their activities and audiences to include new technologies" (57). Technology occasions endless possibilities for the interweaving of text, speech, images, video, and other media in new forms of communication, fascinating in their new interwoven patterns. Educational possibilities unthinkable twenty or thirty years ago now include the ability for students to create multimedia versions of conventional academic papers and projects; or to accompany an oral presentations with computer-generated and displayed graphics, text, and sound; or to link themselves with other students virtually or interact and collaborate with them through blogs, wikis, instant-messenger systems, Facebook programs, classroom management systems, and the like. Technology has also enabled access to an almost limitless fund of knowledge whose quantity and access has exploded like a kind of

informational Big Bang, spreading everything from dazzling stardust to intergalactic debris across the cyberspace to which our students have access. That information increasingly comes from international sources, opening worlds of new knowledge, perspectives, and experience.

New technologies also give us new methods to communicate with students, such as multimedia responses to their work, Web conferencing, and distance learning, and for students to communicate with other students miles or nations apart. The Internet now provides many opportunities for linking classrooms to other contexts, even if virtually. *Pen-pal and peer-to-peer links*, for example, create international exchange through Internet connections between students in different countries. The e-Pals Network has over 111,000 linked classrooms at all levels of education involving six million students in 191 countries (ePals, 2006). *Global classrooms* involve careful coordination between two or more teachers who integrate exchange-based and collaborative projects into their instruction, often creating international teams who investigate a topic and work together on it to produce a Web paper, site, or project. Such linked classrooms are increasingly popular in various scientific disciplines—for example, projects in which students compare analysis of the water or other aspects of the environment in their own community and collaboratively analyze them with their peers in the other community.

Like the other elements of creating successful cross-curricular programs, enriching CAC programs through technology is not a matter of simply providing students with computers and high-speed Internet connections; the use of technology in communication must be *taught* and *supported*. Any teacher who has simply asked students to use PowerPoint in their oral presentations has quickly learned this lesson when students create slides with too many distractions, or use poor layout techniques and unreadable font, or read the displayed text verbatim, with their backs to the audience. As we are compelled to introduce ECAC into our CAC efforts, we must be sensitive not only to how our conventional assignments and activities are transformed by technology, but what our students bring to the use of technology and what they lack—such as the ability to critically analyze information on the Web, or how to find the right balance of written text and other media in a report or document.

#### **4. Design**

*In addition to a thousand techniques for designing patterns, objects, and scenes by interweaving different colored threads into textiles, there are also many other innovative ways that textiles can be designed. Direct printing uses a block dipped into thickened dye to print directly on the*

*fabric. Mordant printing involves the use of metallic oxides that facilitate the absorption of dyes. Tinseling or Rohgan involves sprinkling a metallic powder over an adhesive applied using a deep, open metal box with a perforated base. A wooden implement fits into the box and pushes a thick adhesive through the perforated design onto the fabric. When the box is removed, a metallic powder or leaf is dabbed or pressed over the adhesive; excess powder or leaf is then removed. Resist dyeing consists of applying hot wax, clay, a mud compound, or other natural substances to the textile. When the dye is applied, only untreated areas of the textile accept the color. The Malaysian word Batik refers to a technique in which designs are rendered on the cloth with wax before dyeing. Design options also include tie-dyeing, painting, embroidering over a textile, quillwork, beadwork, rubbing over a pattern board, and stenciling.*

Not only the entire movement of communication across the curriculum but also many of its specific programs began as simple "grass roots" efforts, a small group of concerned teachers doing creative things with writing or speaking in their instruction and advocating that others join them (see Russell, 1991). In many ways, individual teachers who bring a passion for learning to their teaching and an interest in interweaving writing and speaking into their classes are the heroes of the CAC movement, recognizing the value of language activities to students' learning and being willing to forge ahead in many cases without institutional or other support.

But most of the time, widespread institutional change relies on a systematic effort. Early CAC leaders tried to export a model that tended to be cut from the same cloth, without regard to the type or size or mission or student population or instructional ideology of the adopting institution. The results were not always successful. But we have learned the lessons of these mismatches, and now is it much more common for CAC programs to be carefully tailored to each campus.

At some institutions, for example, instructors and administrators are generally interested in improving teaching and learning; consequently, CAC program leaders do not find it difficult to attract participants at various events and workshops. On other campuses, the culture has developed an attitude in which attending a workshop is perceived as a sign of weakness, or an intrusion on the time needed to engage in research and scholarship. On such campuses, a *mentoring method* may be more effective, where trained communication experts work closely with teachers in the context of their own classes.

Working from an institution-wide perspective, *communication-intensive programs* typically require students to take a certain number of courses that are authorized to meet a communication requirement. The courses are scrutinized by a standing committee and must pass a set of criteria concerning how much writing or speaking is assigned, what activities support work on the projects, and how carefully teachers must read and assess the final products. Communication-intensive programs target specific places in the curriculum, often smaller classes, that can pay attention to the communication needs of students. But they also disburse or assign communication-intensity to specific courses and teachers, which can sometimes run the risk of "permitting" other teachers not to assign any writing or speaking in their classes.

*The saturation model* refers to those institutions that try to infuse communication into everything they do. There are no designated intensive courses, no teachers who don't participate in supporting students' writing and communication development. Everyone contributes in proportion to their abilities—in large classes, students write low-stakes, informal papers that can be quickly checked, graded with a simple scoring guide, or used in class in group work or discussion. In small seminars, students work on formal, sustained projects or portfolios over time.

*The program-focused model* works at the level of a department, discipline, major, or program. Because it is localized and gets its energy from the collective interests of specialists, it often escapes some of the sources of resistance that plague CAC programs, such as teachers' beliefs that they shouldn't be "teaching" writing or speaking any more than a historian should be teaching biology; or that communication means adding time and subject matter to a course that already can't cover all it needed to; or that teachers who are not in language or literature are not good writers themselves (see Mahala & Swilky, 1994). Often those program-specific initiatives are based on a set of learning outcomes for students specializing in the subject.

*The portfolio-driven model* has many varieties, but usually it is a way to document students' progress and accomplishments over time, in a collection of papers, tapes of presentations, and other work that can come from specific, designated courses or by the students' choice. Now some institutions have developed electronic portfolio systems that can document students' work over time, including writing, digitized oral presentations, and other media (see Cambridge et al., 2001).

In addition to these broader, systemic aspects of CAC programs, questions of design also include the kinds of programming that the CAC leaders provide. Successful programs artfully match their activities to the

campus culture, remaining sensitive to its history, its experiences with other kinds of support programs, and the dispositions of its teachers and administrators. Among those most enduring activities are the following:

*Seminars and minicourses* can engage teachers, usually in groups of no more than a dozen or so, who meet regularly to work on a specific course, infusing it with writing and/or speaking activities and assignments. A seminar can last an entire semester or year. Teachers are usually provided with a small stipend (perhaps sufficient to attend a national conference) to recognize their time and efforts. They can document their improvements in a Web-posted report or, more programmatically, they can be scheduled to run a brief lunchtime session in which they describe their course improvements to a wider community. These sessions can help to extend a program's staff-development offerings and showcase the work of the teachers involved in the seminar. The vibrancy of such seminars comes in part from their interdisciplinarity; at larger institutions members of the teaching staff may not otherwise ever have occasion to meet and get to know each other and each other's teaching so fully.

On a smaller level, *focus groups* involve a few teachers who discuss teaching or brainstorm possibilities. When these are sustained over time they can become *professional learning communities*, in which teachers continuously share observations and ideas and collectively learn from each other, putting into practice new perspectives and strategies. Such collaborative arrangements are also called *communities of continuous inquiry and improvement* (see Hord, 1997; Dufour & Eaker, 1998).

Not all activities surrounding a CAC program need to be highly structured or coordinated. *One-on-one consultations* give CAC leaders an opportunity to meet with individual faculty or entire departments to focus on specific issues relevant to a curriculum or discipline. *Informal meetings* can attract people who want a quick dose of CAC—an hour over lunch, for example. Some programs offer series of monthly lunch meetings at which issues can be discussed and strategies shared. An informal lunch or refreshments can be provided if funding is adequate. A presenter, usually someone on our campus, can give a brief talk or demonstration and then open up discussion among the participants.

Often finding the best kinds of programming for a particular institutional culture can be a matter of trial and error. However, it is useful to survey a representative group of teachers to see what sorts of support they would most appreciate and to find out how likely they are to attend certain kinds of events.

## 5. Sustainability

*Some carpet makers labor beyond all reason to create the most exquisite, finely crafted rugs. They do so, often, for extrinsic rewards—reputation, inventory, money, survival. But just as often they do so out of an intense love of their craft, a creative impulse to excel.*

Scholars of communication across the curriculum have documented reasons why some programs mold over, unravel, and turn to dust—and it is usually because they were created from inferior thread and woven together haphazardly, with a poor choice of weave and badly fashioned knots. What does it take to keep a program going? What principles should we heed and strive to realize?

Those teachers who do the best work with communication in their classes fall into a group of *intrinsically motivated* teachers, inspired by a sense that they are contributing to the world by helping to form the next generation of citizens—thoughtful, skilled communicators. When enough members of an institution become so motivated, a culture of CAC is established, and it is interwoven throughout all the curricular and extracurricular activities there. Intrinsic motivation, however, is difficult to identify and even more difficult to create, at least across whole institutions. If a CAC program provides support that is engaging, helpful, sensible, and sensitive to the needs of different teachers in different disciplines, it can sometimes create a context that encourages intrinsic motivation. More often than not, a CAC program also needs to find ways to reward attention to writing and speaking from the outside.

At many research-extensive universities, teaching staff become part of a credit cycle involving rewards for research, grants, and publication. Teaching may play a secondary role and be perceived as a distraction or even a nuisance, drawing attention away from scholarly pursuits. This is not a universal concern, since many institutions' lifeblood is teaching; but it is pervasive enough to draw our attention toward the idea of *extrinsic motivation* for communication-rich teaching. When building a CAC program, an important consideration is whether teaching staff will be simply expected or required to buy in, or, if not, what inducements can encourage them to do things differently, which sometimes means abandoning old ways. Rewards might include documentation of innovation—and subsequent recognition—for tenure and promotion, merit pay increases, annual reviews, reappointments, and travel funds. Such rewards do not always require major financial investments. Even letters of praise and acknowledgment, which are virtually free, can do much to support the new efforts of teachers. A poster session where committed,

thoughtful teachers display their ideas, perhaps in the context of a reception, can be an excellent way to reward these teachers' work, especially if higher-level administrators are invited.

Whether we create a culture that is inherently motivated to interweave communication activities into instruction or does so because the institution recognizes and rewards the effort is probably not important, as long as the resulting work is thoughtful, meaningful, and successful. As Mihaly Csikszentmihalyi (1997) puts it, "both intrinsic motivation (wanting to do it) and extrinsic motivation (having to do it) are preferable to the state where one acts by default, without having any goal to focus attention."

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Language winds through our work, creating the rich fabric of knowledge and understanding, interwoven and unique to each individual. Instead of using it only to convey information to students—a weft without a warp, or a warp devoid of a weft—the communication-across-the-curriculum movement aims to wrap it and knot it with purpose and strategy in our instruction, in each instance creating new, imaginative, artful, thoughtful, elegant, and lasting patterns. As we build and sustain our CAC programs, we must remain thoughtful stewards, constantly reflecting on our methods and how best to innovate while not losing the fundamental purposes that make this such an enduring and important effort in the history of higher education.

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