Writing center directors on college campuses began an effort in the late 1970s to achieve professional status. It was needed, for many were overworked, underpaid, and undervalued. Few faculty in academic communities understood what writing center directors did and hoped to accomplish. There were other problems, involving such things as physical facilities, budget insecurities, assembling materials, gathering support staff, and all this with few funds for travel and other perks. Most writing center directors at that time did not have access to tenure (Writing Center Association Executive Board, 1985), and many still do not. This article describes an early struggle to improve their professional status.

To better understand, let us review how writing center directors became a part of the larger movement of academic assistance in higher education, now called developmental education. The need for learning assistance in higher education was not new. As early as 1825 Philip Lindsley, president of the University of Nashville, complained that “In one of our most respected colleges, not one youth in ten is thoroughly prepared” (Hofstadter and Smith, 1961, p. 331). Lindsley was not alone in his concern, for by the close of the nineteenth century, a number of colleges had established academies where students prepared themselves for college work, but the underprepared did not disappear. Martha Maxwell (1979) tells us that in 1907 half the students who matriculated for college-level work at Harvard, Yale, Princeton, and Columbia failed to meet entrance requirements (p. 6).

During the early 1930s remedial reading clinics appeared at colleges in another attempt to deal with the underprepared students. A decade later World War II veterans who were college students on the G.I. Bill often needed help, and they received tutoring and other kinds of academic assistance at guidance centers (Steele, 1982, p. 24).

In 1947 a distinct philosophic shift in higher education took place, which opened the door to new kinds of students and institutions. Army tests indicated that 49% of the population had the mental ability to complete 14 years of schooling in general and vocational studies, and 32% had the capacity for a normal four-year college course. On this basis President Harry Truman recommended that higher education be opened to this wider segment of the population, particularly to historically underrepresented groups. Despite cries from elitists, community colleges sprang up everywhere, leaving traditional two- and four-year institutions bewildered not only by the sheer numbers of their new students but by the complexities of their learning needs as well. (Steele, 1982, p. 25). In the wake of these problems and others, such as retention, many colleges established learning centers, writing centers, and other related programs and recruited staff members and directors for them. Often writing center directors advanced to their current responsibilities from entry-level positions in campus English departments.

Students who needed academic assistance on campuses were often enrolled by the colleges into
segregated departments or programs, which were termed remedial. Pedelty (2001) and others noticed that most underprepared students felt stigmatized from thus being treated differently from other students, a threat to their self worth. Stigma also touched those who worked with them, as if teachers of students in a lower academic continuum are remedial by association (Beckett, 1995; Crawford, 1993; Spann, 2000). Some stigma still exists. Nevertheless, despite these limiting campus environments, many successes came about over the years (Casazza & Silverman, 1996), thanks to gifted and diligent writing center directors, dealing with students and their individual needs (Moore, 1996), keeping careful records, expanding their education and training, and often learning on the job, as described in many issues of The Writing Lab Newsletter, founded in 1976 at Purdue University.

This writer became involved in the need for improved status for writing center directors in 1979 when the issue surfaced at the annual business meeting of the Conference on College Composition and Communication (CCCC) in Minneapolis. The CCCC members were considering a proposal on behalf of instructors of composition or basic writing courses that “full-time instructors of composition and/or basic writing courses shall be regarded in every instance as regular faculty members and shall be accorded the same rights as all other faculty persons including equality of salary and accessibility to tenure status” (CCCC, 1979). The CCCC proposal sounded logical and needed to me, but I felt that it did not go far enough. At the time I was a director of a college skills center, which included a writing component, and I knew that both writing center or writing lab directors and composition teachers need career support and protection.

Consequently, during the discussion of the resolution, I offered what I thought was a friendly amendment that “and/or writing lab directors” be inserted after the word “courses.” To my surprise several CCCC members immediately challenged my proposed amendment, principally because they believed that college writing labs are sometimes staffed by paraprofessionals, and thus, in their minds, the amendment would open up unresolvable problems relating to such issues as salary and accessibility to tenure status. I withdrew the amendment for the time being and said that I would see if a more acceptable proposal could be worked out in a CCCC business session another year.

After the meeting I looked up a number of critics of my proposal to hear their views. One was a person to whom I had supplied some microfilm materials for his dissertation eight years earlier. He and several others at the gathering suggested possible wordings for a new resolution. Now I needed to gather broader support.

During the next two years I publicized various wordings for a prospective resolution in three articles of the Writing Lab Newsletter (Steele, 1979; 1980; 1981a) and invited readers to give their opinions. There was a brief notice in the Journal of Developmental and Remedial Education (Garland, 1981). I also spoke of the issue at the special interest session for writing lab directors in Dallas, Texas, in March 1981, early in the week when the CCCC was scheduled to debate this proposal at their business meeting.

During the previous two years I had received a number of letters with comments and suggestions from colleagues on other campuses, and I went over their letters carefully in drafting the proposed resolution. Apparently I had struck a nerve among writing lab directors across the country, and I have included some representative comments below, though I have omitted the writers’ names because at least one person feared career repercussions if her colleagues became aware that she had contacted me about the status issue. Her reticence is another indicator of the tenuous positions in which many of them existed. One letter asserted, “Writing labs should be an integral part of academic service . . . and writing lab directors, because they provide instructional services, should be professionals and awarded the same rights and privileges of others in this profession.” Another person wrote, “should you decide to offer your resolution, be assured that you will have my support.” Similarly, a letter stated, “I applaud the spirit of your proposed resolution on the professional status of writing lab directors.” And one supporter commented, “writing lab directors should have the same sort of career protection that full-time instructors have.” These and similar comments reassured me that other writing center directors shared my concerns.
At the 1981 business session of the CCCC conference in Dallas, Texas, I introduced the proposed resolution with the following statement:

My name is Mildred Steele of Central College in Iowa, and I speak in favor of this motion. Writing lab staff share with composition teachers a concern for the writing abilities of college students. They recognize that composition teachers, as well as faculty members in a number of disciplines, give attention to student writing needs, but many students require additional help and more sustained help than a teacher’s time permits. And so writing labs or centers came into being to give students one-to-one help directed to their individual needs. They adapt to differing abilities, student attitudes toward writing, learning styles, problems and difficulties, and faculty expectations.

The growth of writing labs in the past 10 or 15 years has been exceptional. We don’t even know how many writing labs exist, but one indication is that there are some 900 subscribers to the Writing Lab Newsletter currently, and the Writing Center Journal, after only one issue, has 500 subscribers, with new subscriptions coming in at the rate of 25 per week.

The professional staff in the writing lab or center carry a number of responsibilities. They make preparations for the day-to-day work of the lab: diagnosing, planning instruction, monitoring progress, adapting to student needs, keeping records, maintaining contacts with faculty, handling fiscal concerns, often training tutors and supervising their work, holding staff meetings, and often teaching some college courses. To grow professionally they need opportunities for scholarly reading, thought, and research. They need opportunities to work for advanced degrees. They should be able to travel to conferences to learn and to make presentations and to become informed of new approaches in language, rhetoric, and the teaching of writing in order to work compatibly with English faculty and others. Lab professionals need to serve on departmental and college committees as well.

This resolution seeks to protect the positions and advance the professional growth of full-time writing lab staff with advanced degrees. These persons need the support and acceptance of their colleagues in this body, and, more importantly, their respect (Steele, 1981b, p. 4).

In the discussion of the proposal that followed, I voiced my observation that, many labs are admirably staffed by paraprofessionals, and this resolution was not intended to endanger their status or positions.

The resolution that follows was passed, this time unanimously, by the CCCC at their annual business meeting on, March 28, 1981:

Whereas full-time professionals holding advanced degrees are widely employed by institutions of higher education to provide individualized instruction in writing labs;

Whereas these writing lab professionals are not always accorded faculty status by their institutions and, hence, are subject to inequities in workload, in remuneration, and in career protection:

Therefore, be it resolved that the 1981 CCCC affirm that full-time writing lab professionals holding advanced degrees, under contract to institutions of higher education, be accorded the same rights—equitable workloads, remuneration, and access to tenure—as other faculty members. (Steele, 1981b, p. 4)

I moved that copies of this resolution be sent to the International Reading Association (IRA), the Modern Language Association (MLA), and the Association of Departments of English (ADE), and the motion carried.

The news of this CCCC resolution appeared in the Writing Lab Newsletter (Steele, 1981b, p. 4), and also in the Journal of Developmental and Remedial Education (Garland & Kayler, 1981, p. 25). Writing lab directors had good reason to be pleased with the affirmation, though most of us knew that this was only a beginning.

Four years later the Executive Board of the National Writing Centers Association (NWCA) took the matter further, passing a comprehensive four-page “Position
Statement on Professional Concerns of Writing Center Directors” (1985). Their statement began with a mandate that called for prepared permanent full-time, experienced writing center directors to have the same rights and responsibilities as other campus professionals. They followed their statement with many needed specifics that covered the mission of a writing center, its clientele, instructional goals, ethical and professional basis, relation to the total college administrative structure, and position in the academic community. Further sections highlighted budgeting, physical space, job descriptions, qualifications, and needed credentials, campus communications, expansion, tutors and staff, administrative support, records, travel, and evaluation. The position statement ended by reinforcing its call for professionalism and the need for forging ahead in the spirit of the early leaders of the writing center movement:

The spirit of this statement is . . . professionalism. The writing center movement has gone beyond the ‘can do’ stage of scrounged materials and informal communications. However, we must not lose either the energy or the commitment that characterized our initial stages. (NWCA, 1985, p. 4)

During the years since these words were written, they still ring true for many directors of college writing centers, though calls for increased professionalism continue to be advocated regularly. There is still much to be accomplished.

What did we learn from this experience? First, we observed that frustrations alone cannot rectify professional inequities; instead, it takes careful and united action of many informed people working together to move toward valid solutions. Second, we discovered that campus developmental educators cannot live in isolation. They must enter the political arena and move beyond their own facilities and ways of thinking to develop ties of liking, respect, and mutual service across their campus and beyond. Third, we learned that change is threatening to some persons, but time and reasonable dialogues can work toward mutual understanding. Finally, we learned to value what goes on day-by-day in our writing centers. Without question, directors and staffs have strengthened the writing abilities of persons at many academic levels, and both teachers and students can take pride in the learning progress.

I hope that the early struggle of writing center directors helped to increase their professional status. Status, as we know, does not come about by simply passing a resolution or position statement. It is probably more likely to occur gradually, sometimes almost imperceptibly, in a continuum of excellence where writing center directors, other faculty, and administrators work with, depend on, and respect each other.

References


Toward a Comprehensive Learning Center

Marti Singer
Georgia State University

Over the past 20 years, learning centers have become an integral part of developmental programs. In fact, many say that this type of learning assistance is not only the way of the future for developmental education, but the only future. This is the story of the growth and eventual discontinuation of one center in a developmental studies program in a large urban university. The historical description provides commentary on both the Learning Center’s evolution and local politics within the university.

“I

nsofar as program components are concerned, I believe that in the future learning assistance centers will become an increasingly important part of developing … skills, particularly at universities” (Boylan quoted in Stratton, 1998, p. 29).

By the end of the 20th century, it became apparent that learning centers would become an integral part of developmental education programs, not only to support students in developmental programs, but also to support students across the entire campus. Many articles during the 1990s concerning the demise of developmental programs around the country called for a shift in emphasis from stand-alone courses to mainstreaming, studio courses, and tutoring centers (Boylan, 1999; Damashek, 1999a, 1999b; Grego & Thompson, 1996; Segal, 1995; Singer, 2000; Soliday, 1996; Stratton, 1998). Moreover, rising admission standards and a focus on retention efforts, particularly at research universities, marked a shift in focus for many developmental programs. It was a decade of “reinventing” ourselves (p. 186) as David Arendale defined it in an interview with Cheryl Stratton (1998).

The decade preceding the 1990s found developmental programs successfully creating ways, often through learning centers, to support students with their developmental coursework, ways that would bring them into the conversation of the university as a part of the community and help them with composition, reading, math, and study skills that they needed to be successful in the academic setting. What began in our department in 1984 as a small round table where math students could obtain tutorial help grew into a facility, by 1998, where students from all over the university could come for tutorial help in all core subject areas. When it ended, it ended with the largest comprehensive learning center on campus that served well over 1000 students each semester. The history of this center provides a backdrop for viewing the history of many developmental trends over the last 20 years.

Backdrop

In the mid-1970s, the Board of Regents of the University System of Georgia mandated that each of the 33 public colleges and universities in the state provide a program of courses for underprepared students in the areas of English, reading, math, and study skills. These programs were housed in freestanding divisions, financially independent, and not connected to any particular college or department within the institution. At Georgia State, a large urban university in downtown Atlanta, each of the areas of English, reading, math, and study skills was designated as a curricular unit within the division of Developmental Studies (DS), and each unit strove to develop curricula that provided students with the academic skills needed to function fully in the university.

Students in English, reading, and math were placed in lower or upper level courses within the Division based on their SAT scores, their high school grade point averages, and a predicted grade point average. They could exit the program through criteria designed by each unit and by passing the Board of Regents requirement on a basic skills test in each area. Some
students arrived with requirements to take all three academic courses, plus the study skills course. Others were required, because of their placement scores, to take one or two courses in the areas of “deficiency.”

In spite of admission standards constantly rising, the DS population grew each year from 1980 through 1994. At one point during these years, Developmental Studies/Learning Support served over 1200 students, nearly half of the freshman class. Although professors were not involved in decisions about admissions standards or Regents’ requirements, we managed to shift the curriculum to meet the needs of students through the years of change. One of the ways that we sought to meet their needs was through a Learning Lab that provided students with a place to go for extra help, practice with exit exams, and general encouragement toward academic success. After the mid-1990s, with changes in Regents’ mandates to reduce the size of developmental programs in the research universities of this state, our department responded with creative ways to shift curriculum and learning center support toward retention efforts for all undergraduates, as well as training for graduate assistants in the College of Arts and Sciences.

In the fall of 1999, the Board of Regents in Georgia approved a motion from the Dean of the College of Arts and Sciences at Georgia State University to disband the Department of Academic Foundations. The “Department of Academic Foundations” was the fourth name for our department in less than 10 years. It had been known previously as the Department of Learning Support Programs, the Division of Learning Support Programs, and in the beginning, the Division of Developmental Studies. The action to disband the program, regardless of its label, ended not only a viable department that supported developmental studies students, staff, and faculty, but also abruptly thwarted the growth of an academic assistance learning lab that had evolved into a comprehensive center supporting undergraduate students across the university, graduate assistantships in the form of tutors and Supplementary Instruction leaders, several Supplemental Instruction programs from various departments, graduate training for the professorship, and research avenues for faculty. Since then, tenured faculty and many staff members have been relocated within the university. However, some of the students who were served in this learning center no longer have the academic support provided by the center. Others have found that they must rely on other methods of academic assistance scattered throughout the university. The Writing Center located in the English Department and the Math Lab, which is now housed in the space previously occupied by the Comprehensive Learning Center, must accommodate larger numbers of students and a larger range of needs. In addition, very few students who score below system minimums are admitted to the university today, as the Board of Regents declared in 1996 that by the year 2001 no more than one percent of the freshman class would be admitted provisionally to any state research university. So, some might say that in an effort to maintain and even raise system standards at research universities, universities may choose to discontinue remedial and learning support opportunities for large cohorts of students. However, a history of this learning center will indicate that perhaps it was not necessary to discontinue the student support system that the Learning Center provided.

This is the story of the evolution of a learning center and a demonstration of what can be developed in a large urban university setting. Although the ending of the story may be disheartening to some, the process of growth and the opportunities the center provided for students, faculty, and staff throughout the years is a history worth telling. The following account comes from conversations with a previous department chair, two of the early lab directors (Dr. Mary Deming, 1984-1986, and Dr. Nannette Commander, 1989-1991), from records that remain from the late Carol Callahan, the director who coordinated the lab from 1991-1997, and from my own personal experience as the last director (1997-1999). Many of the early records from the lab were lost, as previous directors discarded them when they acquired other positions or were moved to other departments in the university. This history has a cyclical nature about it, filled with irony, challenge, success, and change. What began as a lab for math tutoring has ended as a lab for math tutoring; as each challenge was met in a changing environment, the lab became a center of excellence in terms of teaching students, fostering research, and providing access to the academic community.

Getting Started

A previous department chair of Developmental Studies, Dr. Katharine Stone, recounts that in the early 1980s, the first “lab” consisted of a round table in a hallway, a couple of math instructors who served as
tutors, and math students from Developmental Studies courses who were invited to “drop in” for help as needed. At that time the math unit in the Division of Developmental Studies offered a three-course sequence to help students learn the skills and concepts necessary for success in college algebra and other undergraduate mathematics courses required by most majors. My own memory of this “lab” is that of a dimly lit room with one small table, a few students standing in the hallway waiting for assistance, and one of the math instructors going over problems and listening to students as they tried to understand the connections for math in their developmental math classes. This situation lasted only a year or so, when the Board of Regents mandated that all developmental programs provide tutoring for students in their classes. With this mandate came funds to fulfill this requirement.

In 1984, one of the English graduate assistants was hired to set up a learning lab for the Division. Her first year consisted of gathering materials and expanding the space previously used. The Division inherited an old storeroom, dark, but large enough for several tables. This was the first lab that would incorporate students from all three areas of study within DS and began the march toward a more technological focus that would gain attention over the next 15 years. Faculty members, along with the Lab Director, tutored students in English, reading, and math in the “cave,” as we called the location at that time. The numbers of tutees began to increase rapidly. As the need for additional space and helping students with new technologies became more apparent, the lab was moved into a classroom in one of the oldest buildings on campus, a room highly visible, with a couple computer ports. Students more readily found their way to the lab. It was in this new space that the director added tutors who were not faculty members.

From 1984 through 1986 the lab thrived and grew. Its location shifted within the classroom building to accommodate more computers. In addition, the director began training peer tutors, expanding materials, adding computer programs, and publishing in a lab newsletter (Deming & Valeri-Gold, 1986). The lab began keeping records of numbers of students and appointment times. Student Support Services, the TRIO program at Georgia State, supported the lab by paying for some of the tutors to help students with special needs, such as readers for students with visual impairments, tutors trained in learning disabilities, and tutors from specific disciplines. In the three years that the lab was located in the classroom building, the numbers of tutors and students using the facility grew from a few faculty members and a few students per week to as many as 10 tutors and hundreds of students per quarter.

According to the director of this first facility, who is now an associate professor at the university, this lab created not only an outlet for students who sought help with their subject areas, but also served as an avenue of research for faculty and for graduate students working on theses and dissertations. Data from the lab involving student success rates in core courses, computer and technology needs, dialect studies, and more, provided faculty and graduate students with material for presentations and workshops at state and national conferences as well.

**Settling In**

Soon after the first director left her position in the lab to take a teaching position, the facility was moved to a larger space in the university library. This new space was not only beautiful compared to the first locations, but it also allowed for several more computer ports and more tutor tables along with an office for the director. Again, staff or graduate assistants served as directors for the lab. It continued to support students with special needs and developmental studies students exclusively, though some of the DS students returned there for help with their credit core courses. In 1989 faculty began to take whole classes of students to the lab to teach them about library research and word processing. The lab became a learning center for technology for students and for many faculty as well. Faculty development, though subtle, continued to occur in the lab along with the research available with students and classes. The third director (1989 to 1991) said that her memory of this time was that the lab represented a very personal place for students to engage in and become members of the university community. She recalled parties given for students who finished math requirements, for those who graduated after starting in the DS program, and awards ceremonies for special student achievements. The DS Lab on campus became a buzzing, lively place where faculty gave workshops for tutor training, brought their classes for projects, and engaged students in research.
Combining Forces Toward a Cooperative Learning Lab

In the early 1990s, the university library reorganized space and added a new wing. It was also time for our department to think differently about this lab, and to think on a larger scale. In 1991, the Learning Support Department hired a staff person, an experienced lab director from another college. Within a year, she developed a plan – and a university grant – that would move the Lab from the library to its own space in another building on campus, this time a very large facility shared with two other departments on campus. With this internal grant, Health Sciences, the Computer Center, and the Division of Learning Support Programs created the Cooperative Learning Lab. Near the entrance to one of the classroom buildings, a wing of this building housed an office for health sciences, along with space for their video equipment, a small office for a media specialist, a large “open” computer lab with approximately 30 computers, a large tutorial lab along with 12 tables and several more computers that had programs for math and English but were not “hooked up” to the university system or internet, several break-out rooms for individual and small group tutoring, and an office for administration. During the first five years of operation, the Cooperative Learning Lab served students from our Learning Support program in the areas of math, composition, English, and reading. Again, as students moved into credit-bearing classes, they often returned for help with upper level math courses, writing in their core and discipline courses, and general tutoring in subjects such as biology, philosophy, and psychology. The lab director hired graduate students from departments in math and English primarily, but also some peer tutors from biology and other subjects as the need arose.

Because the tutorial lab was adjacent to one of the university’s open computer labs, the lab often drew students who were not part of the DS or Learning Support program. Students not involved in Learning Support, present or past, were initially discouraged from using the lab for tutoring as the director at that time believed that because the funding came from Learning Support, only those students should be served. However, probably the most influential part of the Cooperative Learning Lab that affected students outside of the Learning Support Program was the addition of Supplemental Instruction (SI; Arendale, 1998) for courses in biology, political science, accounting, and chemistry. This program used funds from the Department of Learning Support to provide stipends and tuition waivers for graduate students in the various departments. The Director trained them with the Supplemental Instruction materials from the University of Missouri’s SI Program. Like other SI research, students who participated in the extended study provided by the program earned grades that averaged a whole grade level higher than those who did not take part in the optional breakout sessions (Commander, Callahan, Stratton, & Smith, 1996; Ogden, 1997).

From 1991 to 1997, the director of the lab organized a few mini-workshops for the tutors, usually conducted by professors in the department. She also created the Tutorial Clearinghouse Directory, a list of tutors for students who wanted private tutoring and who arranged and paid for this service on their own. Professors continued to find research opportunities with the students and resources in the lab as well. The director and faculty wrote many different kinds of grants, professors explored alternative ways of learning, and the lab continued to evolve.

Branching Out: Building a Comprehensive Center for Learning

In the mid-1990s, the University System of Georgia Board of Regents declared that the research universities must downsize the developmental studies population by the year 2001. From 1995 to 1997, the Learning Support Department observed serious reduction in numbers among our student population. Professors in the department had begun to reinvent both the department and themselves to focus on retention, adjunct courses, mainstreaming options, and training graduate students in the College of Arts and Sciences toward their prospective careers as professors. When the staff director left her position in the lab in the fall of 1997, the Dean insisted that a faculty member be placed in the position of director. The chair of our department asked me to take the directorship. I received one course release each semester and developed additional graduate courses for training graduate students in the lab and across the college. The reduced numbers of students in the program...
translated to fewer students in the Learning Lab from the Department of Academic Foundations, the new title that attempted to indicate a move away from developmental education and into retention efforts in general. I saw the opportunity to make some changes in the lab, and said I would take it on if I could have some help from a staff member whom I knew was interested in the center and who had written a masters thesis on Supplemental Instruction, a research outcome of our SI program. Peggy Ogden and I shared the goals of serving students, training graduate students to tutor well, and creating a comprehensive center that could serve all students in the university, that would incorporate several programs related to learning assistance from other departments, and that would include faculty development opportunities while continuing to encourage grant writing and research.

For two years we provided intensive training workshops for tutors, held open houses for faculty and administrators, created and taught two new graduate courses for students who intended to teach at the postsecondary level (some of whom were our tutors, many of whom were not), expanded the number of tutors to nearly 20 some semesters, marketed the center, and tripled the number of students who visited the center within a year. We attended a Supplemental Instruction conference, and expanded the numbers of courses that utilized that form of student support. The learning lab became a comprehensive learning center. The Comprehensive Learning Center also housed Writing Across the Curriculum (WAC) writing consultants, graduate students who were granted assistantships to work with professors in their writing intensive courses, and we included them in our training program. We added an English as a Second Language (ESL) component, training graduate students from the Applied Linguistics Department. We also continued to support students with disabilities through Student Support Services and continued the Tutorial Clearing House. We focused on keeping records a little differently, including both evaluations for tutors from students who came to the center as well as from us as directors. We also added a computer program that kept track of students’ visits, the course with which they were seeking help, the tutor who worked with them, and other pertinent data. Toward the end of the second year, 1999, we had a website nearly developed and online tutoring underway. We had intentionally changed the name of the lab to reflect the different perspective and “reinvention”; it was truly a “comprehensive” center rather than a cooperative learning lab at this point.

In the fall of 1999, the College of Arts and Sciences decided to disband the Department of Academic Foundations on our campus and received approval from the Board of Regents. All of the tenured faculty were reassigned to other departments in the university, and the center space was placed under the auspices of the Math Department. The ESL Department continues to use one of the breakout rooms for working with second language students, but all of the other programs were discontinued: learning support in composition and reading; tutoring in subject areas such as philosophy, biology, or political science; Supplemental Instruction; graduate training and teaching courses; and space for Writing Across the Curriculum tutors were all gone. Fortunately, the Writing Center in the English Department was able to take on many of the students who had come to us, but students taking other courses had nowhere to go to seek help. The thriving center for learning just whimpered away.

So What Have We Learned?

Along with clichés like “nothing lasts forever,” “the only sure thing is change,” and “it was good while it lasted,” we learned a lot. We learned about budgeting, politics, and program development. We learned about what students really need and want, and what other students are willing to give and learn along the way. We learned about administration and organization and leadership. We learned about friendship and camaraderie across disciplines in ways we would not have had the opportunity to experience. Were we disappointed? Yes. We also learned about powerlessness.

Perhaps as a department we did not move quickly enough to the Comprehensive Learning Center as the focus for supporting the students admitted to the university with or without provisional status. Many articles written in the last few years indicate that DS programs are in serious trouble in terms of funding, acceptance, and future. Many writers suggest that the only way developmental education will survive is through learning assistance, not free-standing courses or programs in universities. The universities in this state
that have survived the changes shifted early enough in name and identity to a learning assistance model.

At the University of Georgia in Athens, for example, the Division of Developmental Studies expanded to become the Division of Academic Assistance (Higbee & Dwinnell, 1998; Higbee, Thomas, Hayes, Glauser, & Hind, 1998). It has grown and thrived in the effort to serve students at the university, including those who have been accepted under new criteria but are not fully prepared for college-level coursework. The reading program focuses on the difficulty students have synthesizing materials from multiple sources, using strategies for remembering, moderating their understanding, and analyzing assignments (Simpson, Hind, Nist, & Burrell, 1997). Courses are also available in composition, mathematics, and a wide variety of skill areas. A learning center and tutorial services are also provided.

Another irony for us is that many of us were so busy doing research and redefining ourselves in service and new projects, like running the Learning Center, that we were still surprised by the final decision when it came. I guess many of us thought that we could contribute to the retention efforts in the university, even within a marginalized department. And, although we were on our way to answer the call for research suggested by Levin, Levin, and Scalia (1997) that would document successful outcomes such as student grade point averages, accumulated degree credits, student retention, dropout rates, and graduation rates, we did not act quickly enough to publish and promote much of the data we were gathering.

As I reflect on the years the lab was growing, evolving, and moving outward into the university, I realize that each director, including myself, met the challenges of the changing university environment, the rising admission standards, the many changes in university presidents, deans, and administrators – even in our own department – with such tunnel vision and such focus on our own research or on the Learning Lab or Comprehensive Learning Center that we could not see past the successes for students and faculty and into the politics and directions that are now so apparent. All of the glowing reports that I wrote during the last two years that the center was running fell on “blind eyes,” if they were read at all. The data that we thought indicated the worth of the center had no effect on the decisions concerning the department, even as we requested that the center remain intact without the courses. The center was so connected to the department in the eyes of those in power that perhaps they could not envision it standing alone in the college, and could not or would not discuss funding it, with or without a faculty director. Therefore, one lesson to be learned here is that developmental education programs need to align themselves within the university in ways that protect the parts of their programs that can and should exist with or without a free-standing unit or department. Learning assistance is needed whether or not a developmental program exists in postsecondary institutions, regardless of dreams about drawing a “better cohort” of students. And no matter how elite the cohort of students, there will always be students with differing strengths who could benefit from a learning center like the one described here.

According to the 1998 Boyer Commission Report, research universities have “too often failed, and continue to fail, their undergraduate populations” (p. 1). Undergraduate students who provide the major sources of university income often are shortchanged, or “receive less than their money’s worth” because the standing of a university is measured by its faculty research productivity, and teaching is often considered a burden shouldered only to maintain the viability of the university. Certainly this report, and others like it (Rosenzweig, 1998; Simpson, et al., 1997;) indicate a need for studying ways to assist students, and faculty, toward choosing and planning curricula and selecting evaluation measures appropriate to retention efforts.

Finally, if this history contributes at all to the future of assistance centers or developmental programs, perhaps it can serve as a comprehensive model for retention efforts in more fortunate programs. My deepest regret for the students at the university, and perhaps for the university itself, is that they lost the best retention effort they had.

References


In 1988 the faculty of the General College of the University of Minnesota established a new curriculum for its students. In this chapter we describe how the curriculum has as its primary goal the developing of students’ academic skills in content courses with skills instruction embedded in them. We also review how the concept of general education, a focus on student needs and potentials, and a concern with degree progress has shaped the curriculum. Finally, we review some of the evaluation research supporting the curriculum’s efficacy.

Beginning fall, 1988, the General College will initiate A Base Curriculum for Students Entering General College. Addressed to the needs of our newly-targeted populations, this program complements the redefined mission of the College and strives for its fulfillment through provision of the most supportive instructional environment possible which enables students to begin the process of developing the skill and knowledge level required for success in baccalaureate programs.

The above paragraph introduced a resolution passed by the faculty of the University of Minnesota’s General College on July 5, 1988, establishing a new curriculum for its students. The Base Curriculum (BC) was designed to provide a developmental first year collegiate experience for General College (GC) freshmen who were underqualified compared to other university students. The resolution went on to describe curriculum goals; pledge the cooperation of faculty, advisors, and other staff to meet these goals; and outline an evaluation plan. The BC has guided developmental education in GC since that date. This chapter briefly describes the BC, reviews the historical trends that led to establishment of the BC, outlines the BC’s theoretical structure, and summarizes research on its effectiveness.

General College Base Curriculum

The GC Curriculum Committee stated the goals of the BC in its early assessment of the experiment (A Guiding Document, 1990). The overall goals of the curriculum are to enable students to:

1. develop their academic skills (i.e., reading, oral and written communication, math and computer literacy) and successfully apply them to college-level coursework;

2. build and use a foundation of general knowledge in the humanities, social and natural sciences to identify, describe, analyze, reflect upon, or solve issues/problems;

3. demonstrate greater awareness of and respect for individual, cultural, ethnic, and religious differences;

4. develop attitudes and behaviors (i.e., class participation, use of learning resources, task completion, appropriate interaction with peers, faculty, and staff on academic issues) that are associated with success in college; and

5. understand themselves better as learners; evaluate their own strengths, limitations, and
interests; and set attainable academic and career goals. (A Guiding Document, p. 6)

To implement these goals, the Curriculum Committee called for faculty and staff to work closely together to develop courses and support structures that facilitate student success. The primary goal of developing students’ academic skills was reaffirmed as occurring in “content courses with skills instruction embedded in them and content courses that require mastery of those skills” (A Guiding Document, 1990, p. 6). Similarly, because students need to build a foundation of general knowledge, the Committee also reaffirmed the need for the BC to consist of liberal arts courses transferable to other colleges as requirements or electives. Promoting awareness of and respect for diversity was to be accomplished by faculty through a variety of teaching objectives, strategies, content, and materials. Finally, to help students develop as successful and self-aware learners, faculty members were to do frequent student assessment, give frequent feedback, and utilize in-class strategies that promote student self-assessment.

Translation of the BC goals into coursework involved specifying four general areas in which courses were to prepare students: academic skills (Goal 1), content knowledge (Goal 2), multicultural perspectives (Goal 3), and academic acculturation (Goals 3 & 4). We summarize each of these four areas below.

Academic Skills

This area consisted of “processes involved with both acquiring and demonstrating knowledge” (A Guiding Document, 1990, p. 7). Included are specific skills such as reading text, understanding lecture, participating in discussion, performing quantitative manipulations, writing, and using computers to solve problems. Prior to the implementation of the BC the college offered an array of stand-alone courses in reading, writing, study skills, and mathematics. The BC located development of reading, writing, and study skills in content courses and placed all students into a college level basic writing course. Courses in precollege level mathematics were retained and kept available to any University of Minnesota (U of M) student who needed them.

Content Knowledge

Because the U of M required students to gain breadth of knowledge in their coursework, the BC consisted primarily of natural science, social science, and humanities courses. Thus, the BC was to impart to students the traditional liberal arts goal of attaining content knowledge in the “body of general knowledge of the natural and social world shared by college-educated people” (A Guiding Document, 1990, p. 9). BC courses were designed in five disciplinary groups: mathematical thinking, composition, social sciences, physical and biological sciences, and humanities. Students were required to take at least one course from each group during their first year. After taking a BC group course, a student could take a course in that group outside of the BC, including courses in other U of M colleges. Taking these non-GC courses allowed students to make a “seamless” transfer to degree granting colleges.

Multicultural Perspective

The GC faculty defined this as “the development of an awareness and respect for human cultures and the racial, ethnic, religious, gender and other differences that characterize them” (A Guiding Document, 1990, p. 9). Although not articulating any minimum standards, the document committed the faculty to make it “pervasive in the curriculum.”

Academic Acculturation

This area recognized that students need to learn how to function in the university environment. The BC was to help develop students’ study-management skills and model academic behaviors and values. Study-management skills included “time management, test taking, library skills, condensing and summarizing, techniques for organizing knowledge, familiarity with different learning strategies, awareness of personal learning styles and their strengths and limitations” (A Guiding Document, 1990, p. 10). Students were to acquire these behaviors through meetings with the academic advising staff, and through a noncredit extended orientation seminar made available for some students. However, the main source of support for academic acculturation was to occur in academic coursework, where content instructors would reinforce
the behaviors in different ways. Academic behaviors and values included making use of university resources (e.g., libraries, computer labs, counseling center, resource centers for students of color) as well as GC resources such as the Reading and Writing Center and the Math Center. The foundational value of learning and organized inquiry was to be reinforced by all interactions with advisors and instructors and to be part of all courses in the BC. Study skills courses remained available to students as electives through the all campus Learning and Academic Skills department, which provided these courses for all university students. GC students who expressed interest in formal courses in study skills were encouraged to enroll in them.

The GC Curriculum Committee provided specific directions to instructors on how to structure their courses to meet the BC goals (A Guiding Document, 1990, pp. 12-13). First, all courses were to be sensitive to diversity, focus on the student as a learner, utilize pedagogies shown to be effective with developmental students, state learner outcomes objectives, be personally relevant to students, and utilize explicit methods for student assessment and class management. In addition, BC courses were to include as many of the following characteristics as feasible: (a) a high level of structure and organization; (b) a balance of skill development objectives and content objectives; (c) explicit instruction in how to accomplish academic tasks in the course; (d) explicit instruction in the use of College and University resources; (e) repeated application of skills to accomplish academic tasks; (f) career exploration; (g) greater opportunities for one-on-one help from instructors or teaching assistants; (h) more supplemental help available (e.g., peer study groups, tutoring in the Reading, Writing, and Math centers); (i) frequent student assessment and feedback in class by the instructor; (j) monitoring of students by way of Academic Alerts and mandatory Progress Reviews; (k) smaller class sizes; and (l) acceptability and fulfillment of degree requirements in other colleges.

The GC Curriculum Committee further explicated the requirements for students matriculating in GC and how the BC goals were to be implemented. In essence, the development of students was to be done primarily in the college’s general education curriculum by its regular faculty with consistent reinforcement by advisors. In addition, the committee reaffirmed the need for regular and comprehensive evaluation of the curriculum.

**Historical Antecedents**

To understand the Base Curriculum fully, we must consider the historical context from which it developed. Founded in 1932, the General College’s roots go deep into two democratizing ideas in American higher education (Moen, 1979). First, it derived from the idea of the land-grant college Morrill Act of 1862 that granted federal lands to states to finance tuition-free colleges. These institutions were “not just for the few, not just for the rich or well born . . . but for the many; for those who in the language of the 1800s were called the mechanics and industrial classes” (Moen, p. 1). Second, it carried John Dewey’s idea of “instrumentalist general education, that curriculum should be instrumental and utilitarian rather than an end in themselves” (p. 1).

In his writings, Norman Moen (1979, 1982, 1983) pointed out that the open admissions policies of the University of Minnesota’s College of Science, Literature, and the Arts (SLA) were drawing criticism in the 1920s because half of entering students were not finishing degrees. The SLA dean was concerned that the school had become a revolving door and wanted to restrict admissions. However, the University president, Lotus Coffman, believed all Minnesotans deserved an opportunity to obtain higher education. He also believed that the state already had more doctors, lawyers, engineers and teachers than it needed, but that the need for intelligent citizens was limitless. He appointed a committee of seven to come up with solutions, and they proposed the founding of two new colleges, University College and the Junior College. What is now called GC was to be a junior college for the University of Minnesota. Malcolm McClean, who was trained in English, became the first director. He enlisted the help of Fred Hovde, who was trained in engineering and later became president of Purdue University, and Ed Williamson, a pioneer in educational counseling. They taught the first courses: Individual Orientation, Vocational Orientation, Home Life Orientation, Socio-Civic Orientation, General Arts, Literature, Speech, and Writing in the cramped, in need of repair, upper floors of a building recently vacated by the Dentistry School.
The new bulletin (The University Junior College, 1932) called for “a two year rounded education for that half of the University of Minnesota students who do not at present graduate from a four-year or longer course of study” (p. 3). Dewey’s ideas permeated the bulletin as is illustrated in the statement of principle by the faculty that “we are intending to give students of the Junior College as concrete, general, vivid, and realistic picture of themselves and the world they live in as can be devised” (p. 5). The bulletin further stated that certificates would be awarded to students upon satisfactory completion of two years of work but that means for transfer to other colleges of the university would be available for “students who, having done satisfactory work in the Junior College and having found the field of their specialty, wish to go on for longer training” (p. 10). This near afterthought was to become the primary GC mission five decades later.

During the 1930s the college was a proving ground for the new field of educational psychology. The college delivered courses that had no credits or grades and successful completion was assessed by comprehensive examinations. Notable psychologists such as Melvin Haggerty, Leonard Koos, Jack Darley, Cornelia Taylor Williams (1943), Robert Pace (1941), and Ruth Eckert (1943) conducted studies on student progress and wrote works that became classics in the literature on higher education. In 1941 GC became a separate budgetary unit with its own faculty and in 1946 then director Horace T. Morse became the first dean. During the 1940s and 1950s enrollments grew and the curriculum became more traditional. Many occupational programs (e.g., legal assistant, radiological technology, human services technician) were added and students earned occupational certificates and associate (AA) degrees (Moen, 1979, 1983).

In the 1960s, unrest over civil rights and the Vietnam war led to demands for easier access for people of color, women, the economically disadvantaged, and older students; accreditation for nontraditional learning; experiential learning; innovative degree structures, and individualized studies. Social outreach agencies such as the Higher Education for Low-income Parents (HELP) Center were established, and GC was asked to expand its Deweyan tradition to baccalaureate degrees. The baccalaureate program stimulated further growth in enrollment so that in 1985 the college had about 50 faculty members and 4000 students.

The baccalaureate program at its zenith in the early 1980s consisted of two student-designed degrees that made use of over 200 junior and senior level courses developed by GC faculty over a 10 year period. Approximately 400 students were pursuing degrees and taking GC courses as well as courses from other colleges at the university to satisfy degree requirements.

In 1985 things changed radically. The community college system, built in the 1960s, offered a full array of occupational certificate programs. Also, the Minnesota State University System had launched Metropolitan State University in the Twin Cities, which offered a two-year upper division degree program similar to GC baccalaureate degrees. Voices at the legislature asked the higher education systems to consider ways of eliminating duplication between systems and to develop mission differentiation plans. The governor demanded that the university save money by eliminating GC.

University president Kenneth Keller proposed that GC occupational programs, baccalaureate degrees, and AA degrees be eliminated. His plan was to have the college reconstitute itself as a unit that prepared developmental students for transfer to the degree granting colleges. In exchange, his administration promised a new office wing and renovated space in the former pharmacy building along with generous budgets during the transition.

This change did not come easily. The faculty was split, and a well-organized campaign to block the changes was defeated in a close vote by the University Board of Regents. As a result, many faculty members retired, six transferred their tenure lines to other colleges of the University of Minnesota, and the rest set about retooling for their new mission. The turmoil contributed to the GC dean’s resignation to take a university vice president post. Two acting deans presided over the subsequent transition until 1988, when David V. Taylor was appointed dean. Taylor has led the college through a period of internal, if not external, stability and sense of purpose. With his leadership, a university administration proposal to close GC in 1996 was defeated 11 to 1 by the Board of Regents after a spirited, community-wide campaign.
A good part of the stability over the past 16 years has been the sense of purpose and optimism generated by the Base Curriculum.

**Theoretical Structure**

The General College Base Curriculum was born of necessity but did not emerge from a vacuum. Its designers were part of a tradition extending back over five decades in GC and back further from GC’s inception. First, there was the Deweyan notion that education is for people and not in and of itself the primary good (Moen, 1979). The GC focus has always been on students and their needs and aspirations; the curriculum was to serve that. The primary concern of GC faculty members has always been the student rather than academic disciplines. Thus, while grounded in traditional disciplines, the GC faculty has focused on student development rather than disciplinary training.

Second, the founders of GC recognized that most students would terminate with the GC certificate but that some would find they aspired to develop further than might have been expected given their initial circumstances. The GC curriculum has always been designed to meet students where they are and make it possible for them to achieve their goals. This tradition obligated the college to eschew a priori exclusionary judgments about student potential because it was founded to keep the U of M open-access as other units became more selective.

Third, several research trends in higher education provided an impetus to create the BC. A Carnegie Foundation Report critical of the skill levels of college students stimulated our faculty to research ways that skills development could be done within regular college courses (Miller, Brothen, Hatch, & Moen, 1988). We were concerned about what other writers warned of as the destructive educational, social, and political consequences of the “knowledge gap” (Gould & Heyda, 1986; Hairston, 1983; Rose, 1985) created when segments of the population are excluded from the content curriculum. The environment necessary to unite skills development with development of knowledge did not seem to reside in the traditional approach to teaching developmental students. Richardson, Fisk, and Okun (1983) showed convincingly that placing students in isolated skills courses before they proceeded to the regular curriculum did not achieve true educational progress. Students may have indeed learned skills, but that did not translate into degrees.

The BC designers utilized a substantial body of research done in the 1980s that had already demonstrated the effectiveness of writing across the curriculum practices on writing performance and content learning (Fulwiler & Young, 1982; Griffin, 1985). Similarly, they applied a body of reading research (Vacca & Vacca, 1986) demonstrating the discipline specific nature of college reading. Evaluations of the existing GC process of testing and placing students into precollege reading and writing courses suggested that the placement process was not valid and the courses were not particularly effective in preparing students for work in discipline courses and, therefore, should be abandoned. Data also showed that precollege indicators such as standardized test scores and high school grades were not good predictors of students’ success in our courses. In contrast, first quarter grades predicted success with greater than 90% accuracy.

Because registration for BC courses was not based on placement testing, advising was an essential component of the model. The college adopted an intrusive advising model that called for communication between faculty and staff about student progress. Advisors utilized proactive advising strategies that directed students to interventions as the need developed.

The multicultural component of the BC was informed by the work of James Banks (Banks & Banks, 1989) and the freedom pedagogies of Paulo Freire (Freire, 1993; Shor, 1987). These perspectives called on faculty to go beyond inclusion of information about people of color to including diverse perspectives on the creation of knowledge and the political contexts in which knowledge exists. These constructivist perspectives were deeply embedded in the composition courses.

All of the trends and research findings noted above contributed to the BC planners adopting what we have called the criterion model of developmental education (Wambach & Brothen, 1990, 2000). In brief, this model rejects testing and mandatory placement into remedial literacy skills courses and calls for placement of underqualified students into supported content
This approach is especially appropriate in GC given that nearly all of the entering students have met the U of M high school preparation standards in English and Social Studies. In mathematics, however, many entering students have not met the high school preparation requirements. Because of this, the College retained placement testing in mathematics and used them, along with information from other standardized mathematics tests and high school records, to help students select appropriate mathematics or mathematical thinking courses.

The BC emphasis on skills development in a content knowledge context drew heavily on the GC tradition of thematic package and paired courses (Moen, 1982, p. 49). Many of the BC principles were tested in a paired course experiment that linked courses in writing, history, and biology (Miller et al., 1988). That project successfully put these principles into practice and provided a final push for adoption of the BC.

Evaluation of the Base Curriculum

Evaluation of the Base Curriculum has occurred both at the institutional (i.e., college) and individual (faculty and staff) level. At the college level, GC supported an institutional research office that coordinated evaluations of the curriculum, advising, and student experience. In addition, GC faculty and staff pursued research examining the effects of their pedagogy and support services on student learning. This body of research is too extensive to review here so the focus of this discussion will be on evaluations conducted at the college level.

In preparation for implementation of the Base Curriculum, Schmitz (1988) surveyed former GC students who had transferred to other U of M colleges about their GC experiences and academic experiences since transfer. Schmitz also surveyed non-GC faculty members who taught introductory and intermediate courses about their instructional practices. GC faculty used the results of these surveys as they designed courses intended to prepare students for success after transfer.

During winter quarter 1989, after the first term of the BC, Schmitz surveyed GC faculty and staff about a wide array of issues related to BC implementation. The surveys were followed up with faculty, advisor, and student interviews. This research confirmed that writing to learn pedagogies were an important part of the BC. Collaborative learning, frequent testing, and explicit study skill instruction also emerged as important components.

In the fall of 1989 two other examinations of the BC occurred. Wambach (1991) observed 22 BC courses over an entire academic term, recording faculty and student behavior. She found that lecture and questioning remained the mainstay of BC pedagogy. However, there was evidence of increased use of group activities, especially in smaller courses. Use of instructional technology was also emerging as a major component of courses in writing and psychology. Schmitz and Andreozzi (1990) conducted in-depth interviews with a small cohort of GC students. They found that students who dropped out of GC had gotten low grades and had not identified goals to sustain their effort in higher education.

One of the main targets for evaluation was the GC writing program. The BC eliminated precollege reading and writing courses and placed all students into the same basic writing course, GC 1421, so students’ performance in this course was carefully examined. Research on the program revealed that 87% of students participating passed the course and that students who completed the GC writing program performed successfully in advanced college writing courses (delMas, 1994; Wambach & delMas, 1998a). A comprehensive study using holistic scoring of students’ writing suggested that students demonstrated gains in skills while they were enrolled in the courses (Wambach & delMas, 1998b). This research supported the decision to place all GC students directly into basic writing.

The mathematics program has also been studied in depth. Placement into mathematics is strongly influenced by the results of a placement test, so the validity of that test has been examined in a series of studies (delMas, 1995; Hatfield, 2001; Kinney, 2000). These studies suggested that the placement process has acceptable validity and that most students who took college level mathematics courses after their GC mathematics courses passed them.

A series of ongoing research studies also tracked GC students’ retention and transfer to degree programs. This research suggested that as the BC was implemented, both retention and transfer increased.
Recent research on student satisfaction at the University of Minnesota suggests that General College (GC) freshmen are more satisfied with their experiences than other freshmen at the university (Merabella & Wambach, 2001).

Research has also revealed ongoing issues with the Base Curriculum (BC). A survey of transferred students completed in 1995 (Wambach & Woods) suggested that some students viewed their experience in the college as too similar to high school. A variety of experiences such as smaller class sizes, active learning pedagogy, learning communities, and intrusive advising were identified as "high schoolish" by some students. Yet these are the strategies research identified as effective in enhancing learning and retention. Follow-up research on this issue suggested that although most freshmen find their experiences with the BC to be academically challenging, some courses were viewed as less challenging than others (Wambach, Thatcher, & Woods, 1996). This information was used to retool some areas of the curriculum. However, the perceptions of the college and its curriculum are clearly affected by the stigma attached to participation in an academic program for less academically qualified students. Many courses in the college would be viewed differently by students were they offered outside GC. Dealing with stigma is an important task for GC students, faculty, and staff (Pedelty, 2001). This remains a significant challenge for us as developmental educators.

**Conclusion**

The General College faculty and staff have found the Base Curriculum to be useful in designing and revising courses, advising students, and stimulating research on a variety of issues relevant to the progress of developmental students. For example, the BC requirement that students get timely grade feedback has led us to implement college wide mid-semester grade reports that are sent to students and advisors two times during the term. An evaluation of that approach currently underway suggests that students value the feedback and advisors appreciate the information to help them suggest appropriate interventions and proper registration for the following term. In our own case, we have maintained a research program with our general psychology class that supports the goals of the BC (Brothen & Wambach, 2000).

The General College Base Curriculum has a long history and a short past. It is rooted in the instrumentalist general education tradition of John Dewey and in the land grant philosophy that still pervades the University of Minnesota. We believe that this history speaks to the needs of society today and that the Base Curriculum provides an effective model for how to serve developmental students.

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The Lessons of History: Transforming Science to Include Developmental Education

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Science education has a long history of excluding developmental education students. Programs that have overcome this historical inertia have usually done so in a five-step process in which faculty and administrators (a) initially do not notice or care about the absence of developmental education students; (b) note the problem but implement ineffective changes; (c) identify and eliminate barriers that exclude developmental education students from science; (d) promote the contributions of women, ethnic minorities, students with disabilities, and students from economically disadvantaged backgrounds; and (e) redefine and restructure science education to include all students. These stages of curricular transformation ensure that all students, regardless of their gender, ethnicity, or social status, can learn about science in a nurturing environment.

Science has long been dominated by White males. The earliest barriers to the participation of others in science were economic; for example, science in the 1600s, 1700s, and 1800s was often practiced only by wealthy White males (e.g., Charles Darwin). In more recent times, political events have often led to other barriers. For example, when the Soviet Union launched Sputnik I in 1957, the United States feared that it could not compete technologically with other world powers. To address this problem, government officials poured millions of dollars into science education. Science became very competitive and soon was perceived as being only for the “best and brightest” students. Developmental education students, such as ethnic minorities, persons with disabilities, and people from economically disadvantaged backgrounds, were guided away from science and into other careers. Another “reform” of science education occurred in the 1980s when American students scored poorly on international tests. This reform of science, like those before it, did little to remove barriers that excluded developmental education students (Moore, 2001).

Today, science education remains a hostile neighborhood for students in developmental education. Many scientists and science educators continue to believe that science is beyond the grasp of developmental education students. This is why virtually all universities include only reading, writing, and math—and not science—in their developmental education programs (Moore, 2001; National Science Foundation, 2000).

Although developmental education has a long and productive history of service to postsecondary education (Boylan, 1988; Maxwell, 1997; Stahl & King, 2000), the longstanding belief that developmental education students cannot succeed in science has marginalized, silenced, and in some cases excluded the students who tend to be overrepresented in developmental education, namely women, ethnic minorities, students with disabilities, and students from economically disadvantaged backgrounds (Moore, 2001).

Women, ethnic minorities, and students with disabilities are entering math, engineering, and the physical sciences and getting degrees at rates far lower than their representation in the population (Rosser, 1995). Most women and minorities in science are in biology and psychology, but even in these fields they remain a minority (Rosser, 1995). Regardless of their discipline, minority students in science have significantly higher attrition rates than do nonminority students. Similarly, scientists who are minorities continue to receive lower salaries than nonminority scientists (National Science Foundation, 2000).

Young White males have a significantly more positive attitude toward science than do women,
African Americans, and Hispanics (Rakow, 1985). Once in the educational “pipeline,” the confidence of males increases while that of females decreases (Vasquez, 1998); this helps explain why far more women than men drop out of science courses and programs (Lawler, 1999). This disparity between men and women in science programs is often unrelated to academic ability, for it persists despite the fact that many of the students who drop out are well prepared for college and have high grade point averages (e.g., Newkirk, 2001). That is, poor grades alone do not account for why science is such a hostile neighborhood for many developmental education students.

The exclusion of developmental education students from science has long-term effects that contribute significantly to the startling lack of diversity in science. For example:

1. Although Blacks and Hispanics constitute 10% and 7%, respectively, of the employed labor force in the United States, each represents only about 3% of all employed scientists and engineers (National Science Foundation, 1990).

2. Women constitute 45% of the employed labor force in the U.S., but only 16% of all employed scientists and engineers (National Science Foundation, 1992). Women constitute only “1 percent of working environmental engineers, 2 percent of mechanical engineers, 3 percent of electrical engineers, 4 percent of medical school department directors, 5 percent of physics doctoral degrees, [and] 6 out of about 300 tenured professors in the country’s top 10 math departments” (Holloway, 1993, p. 96). Women constitute about 12% of the employed scientific and engineering labor force in industry.

3. Of the 1,647 living scientists elected to the National Academy of Science, only 70 are women (Rosser, 1995). Women who remain in science are often displeased and transmit their uneasiness to female students and younger female colleagues (Lawler, 1999).

The longstanding domination of science by White males (Vasquez, 1998), combined with the ongoing marginalization and exclusion of women, ethnic minorities, and others, has often produced experiments, data, theories, and conclusions that reflect the biases of White males (Harding, 1991; Longino, 1990). For example, before 1993, when President Bill Clinton signed legislation requiring the National Institutes of Health (NIH) to include women and minorities in all of their clinical health studies, there was no federal policy to adequately enforce the representation of these two groups in public health research. As a result, scientists and science teachers often lacked data for a variety of important phenomena that affect women and minorities (e.g., the contraction of AIDS by women; see Link, 1998).

Science Education and Developmental Education Students

Developmental education students heed the many messages—both overt and covert—that they are not welcome in science, that they are often blocked from entering science, and that they have no future in science (Barton, 1998; Kahle, 1988). These messages, combined with the students’ and teachers’ lower expectations, reduced participation in science-related activities, and overall anxiety about science, convince most developmental education students that they should avoid science. They do.

Although science programs at most colleges and universities continue to be dominated by the belief that developmental education students are not suited for science, some institutions have realized that their standards and practices are discriminatory and have arbitrarily denied the access of many qualified students to science. In some cases, these institutions have changed their science programs to provide greater access and opportunities for developmental education students. They have done this by (a) rejecting the longstanding notion that developmental education students are inferior and cannot succeed in science, and (b) examining the structural and institutional barriers that have blocked developmental education students from science (Brickhouse, 1994).

The histories of science education and developmental education tell us that we need to make science education programs more appealing to developmental education students. Many programs have changed to accomplish this goal. In this chapter I use the histories of science and developmental education to understand how science education
programs can embrace teaching science to all students and, in the process, increase the access of developmental education students to science. As will be obvious from the following discussion, minorities of both sexes are often excluded from science for the same reasons that White women are excluded (George, 1982; Matyas & Malcolm, 1991).

**Increasing Access in Science:**

**The Phases of Curriculum Transformation**

**Ignoring the Problem**

In programs at this stage of curricular development, faculty, administrators, and students do not know or care that developmental education students and their concerns are excluded from science programs. In these programs, no one asks or cares about how their courses, pedagogical techniques, student services, or attitudes contribute to the retention and success of students. Many programs in math, engineering, and the physical sciences are at this stage of development.

Administrators and faculty in these programs often justify the exclusion and absence of developmental education students from science with the longstanding belief that because science is objective and value-free, factors such as gender, ethnicity, and background are irrelevant to what scientific knowledge is produced or who becomes a scientist. Because these faculty and administrators often reject the notion that ethnicity and gender influence experiments, ideas, results, and conclusions in science, their programs usually perpetuate the hostilities that developmental education students encounter; these are the biases of the White, upper/middle-class, heterosexual males who dominate the programs and who determine what subjects should be studied, what subjects are interesting and important, and what answers and conclusions should be obtained. These biases convince many developmental education students that they are not “scientific” because they either do not see or are not interested in observing the “right things” (Rosser, 1995). Although these faculty and administrators acknowledge that students have different backgrounds, they (a) are often unaware that their expectations are based on socioeconomic class, ethnicity, and gender (Stegemiller, 1989), and (b) assume that the students’ differing performances are due only to the students’ innate abilities and motivations. No one in these programs thinks or cares much about what it could mean to teach science in ways that embrace rather than marginalize or exclude so many students.

The histories of several disciplines (e.g., women’s studies, psychology) have shown us that ethnicity, gender, background, culture, and socioeconomic class do influence and therefore bias science and science education. Different backgrounds usually produce different observations; for example, female primatologists made unique observations that led to important new theories (e.g., female-female interactions) which led to new ideas (e.g., Fossey, 1983; Goodall, 1971; Hrdy, 1984).

Women, ethnic minorities, students with disabilities, and others often continue to be marginalized by longstanding misconceptions that they are neither fit for nor interested in careers in science, that they make poor risks as graduate students because they are “unqualified” for science, and that they cannot contribute as much as White men. These misconceptions, combined with the fact that women and minorities have traditionally received fewer resources and rewards than White men, have made careers in science especially difficult for women and minorities (National Science Foundation, 2000). When these students avoid or leave science, we often excuse their marginalization and exclusion from science with self-serving excuses such as “It’s probably best for them, anyway” or “He’s disabled—what do you expect?” These results and excuses are consistent with the beliefs that these students are often obstacles to developing a quality science program; for example, students with disabilities are often told that they can’t do science because of their reduced dexterity or mobility. Similarly, women are often expected to be home with children, whether they have children or not or whether they want to be there or not. To many people, the phrases disabled scientist, minority scientist and woman scientist are contradictions; if such people exist at all, they are somehow “unnatural”—either an atypical person, or an atypical scientist (e.g., Rossiter, 1982). Today, as in the past, women and minorities must often overcome the consequences of self-fulfilling prophecies (Doyle, 2000) that dominate science education programs at this stage of curricular development.
Noticing the Problem but Implementing Ineffective Changes

Historically, programs at this stage of curricular development typically intervene with compensatory programs that enroll more developmental education students in their courses. This “add-developmental-education-students-and-stir” approach to the problem seldom succeeds because (a) the courses and programs in which the developmental education students are placed remain as hostile to these students as before, and (b) it continues to emphasize the alleged deficiencies of students rather than the obstacles and discriminatory practices of science and science education. In these programs, courses remain a “filter” that excludes students from science rather than a “pump” that helps ensure students’ access to and success in science.

Another strategy typical of faculty and administrators in programs at this stage of curricular development involves sending developmental education students into “remedial” and “skills” courses rather than content courses, thereby blocking the participation of developmental education students in mainstream science courses. Many studies question this strategy. For example, Richardson, Fisk, and Oken (1983) found that stand-alone skills courses are a dead-end for many students, and Broughan (2000) found that well over half of the students placed in multiple remedial courses never earned even one credit-hour. Moreover, (a) students in remedial courses learn less, probably because of lower and more-negative teacher-expectations and less challenging course-content (Atwater, 1994), and (b) the grouping of students in remedial courses adds to, rather than diminishes, preexisting academic inequalities because such “labeling” further lowers students’ self-confidence, further lowers teachers’ expectations and perceptions, and often leads to poor teaching (Lavin, 1996; Samuda, 1986). Ability-grouping (e.g., based on norm-referenced assessments) in remedial courses is especially harmful to minority students because it perpetuates the ethnic and socioeconomic segregation and imbalance typical of many educational programs (Atwater, 1994). As noted by Marriott (2001), these low teacher expectations, combined with students’ inadequate preparation, often help students learn their learning disability; Samuda (1986) even refers to ability grouping (including the mindset that all students must be judged according to the same standards, procedures, and values regardless of cultural or class differences) as structural racism. It is difficult to see how placing students in remedial courses can be a better alternative to the opportunity to succeed in a content course.

Faculty and administrators in programs at this stage of curricular development also often demand that developmental education students take science and other courses at two-year colleges, not research universities (Stratton, 1998). This policy worsens the problem faced by many students in developmental education. For example, African American and Hispanic students at two-year colleges have much lower rates of retention than White students; that is, two-year colleges disproportionately eliminate minority students. Meanwhile, developmental education programs at research universities retain and graduate significantly more African American and Hispanic students than do two-year colleges (Boylan, Bliss, & Bonham, 1993). Forcing at-risk students to take remedial courses at two-year schools will probably reduce the number of university graduates, especially the number of minority and low-income students who earn university degrees (Stratton). As noted by Hunter Boylan, relegating developmental education students to community colleges “is not an educationally sound idea” (Stratton, p. 27).

Progressing beyond this stage of curricular development requires that faculty and administrators shift their focus from reactively blaming students for their alleged failures to proactively identifying and eliminating barriers that block students’ access to science (Moore, 2001).

Identifying and Removing Barriers

This phase of curricular transformation often starts when students, faculty, and administrators recognize that women, ethnic minorities, economically disadvantaged students, and others have been excluded from science and wonder how this has affected science. These faculty and administrators begin to understand that poor academic performance historically involves far more complex factors than a student’s inability to solve for x in an equation or write a grammatically correct sentence; if these were the only problems that developmental education students
faced in college, then remediation would be a simple solution. On the contrary, students’ academic success also involves several noncognitive (i.e., developmental) factors, including self-confidence, control, attitudes about education, social justice, and their ability to seek help (Boylan & Saxon, 1998). Clearly, these factors have nothing to do with a student’s academic skills or intellectual ability.

Students, faculty, and administrators do not have to look far to find examples of how talented women and minorities are excluded by the current ways that science is taught and practiced (Fausto-Sterling, 1992; Harding, 1986; Moore, 2001; Rosser, 1995). For example, many developmental education students are not interested in many research topics (e.g., military-related problems) and pedagogical approaches that have been favorites of the White males who have dominated science for generations. Highly competitive “weed out” courses are unlikely to appeal to even the best developmental education students because these students often suffer from lower academic self-concept and self-esteem, which decreases even further while they are in college (Astin & Astin, 1993; Davis, 1993; Mills, 1993). This, combined with the fact that many developmental education students tend to blame themselves for failure while attributing their successes to luck, exacerbates the problem (Kahle, 1988; Rosser, 1995).

Many women approach science from a different, less competitive, and more holistic perspective than men (Kahle & Meece, 1994; Rosser, 1995). For example, many women would rather study interdisciplinary, socially useful problems than the hierarchical, reductionist, and dualistic problems that often typify male-dominated science (Belenky, Clinchy, Goldberger & Tarule, 1986; Harding, 1985; Kahle, 1985; Rosser, 1993). Many women do not want to participate in the aspects of science that they consider to be destructive to humans, other animals, and the environment (Halpin, 1989). Although these students are not usually vocal or adamant about their ideas, they are uncomfortable.

Progressing beyond this stage of curricular development requires that faculty and administrators understand that they can increase all students’ access to science by incorporating new ways of teaching and learning based on new experiences and perspectives. These new approaches include the following:

1. Encourage students to become connected with what they study. For example, Nobel laureate Barbara McClintock’s insistence on having a “feel for” her corn plants (Keller, 1983) and Dian Fossey’s personalized interactions with mountain gorillas (Sapolsky, 2001) differed dramatically from the “objective” approaches of men that were based on putting distance between the scientist and his subject. The “connected” approaches of McClintock, Fossey, and others, which often enhances learning by women, contrasts the misconception that scientists are isolated and distant from what they study (Hubbard, 1990; Rosser, 1995).

2. Encourage students to view science in a larger context. Although most science programs promote competition, dualistic thinking, and the domination of nature, many ethnic minorities emphasize group cooperation, holistic thinking, and social justice (Anderson, 1988; Caduto & Bruchae, 1989; Hadfield, Martin, & Wooden, 1992). Teachers can make their courses more accessible to these students by making their courses less competitive, emphasizing the social context of science, and showing how science improves people’s lives (Moore, 2001). Similarly, show students that science is one part of life that is compatible with their other goals; the belief that women in science have added obstacles due to their concerns about marriage and family often causes women to leave science (Arnold, 1987; Gardner, 1986; Matyas, 1985).

3. Offer smaller, more personal classes in which all students have equal access to instructors and which include multiple ways of knowing and doing science (Barton & Osborne, 1995; Brickhouse, 1994; Roychoudhury, Tippins, & Nichols, 1993, 1995). The high rate of attrition of highly qualified women and minorities from many science programs may be due to large, impersonal, and restrictive introductory courses based entirely on monolithic lectures and multiple-choice exams having one correct answer (Rosser, 1995). Effectively teaching all students, including those in developmental education, requires that teachers use a variety of pedagogical techniques (Moore, 2001). Merely repeating information more slowly and loudly does not increase comprehension.

4. Design courses to engage all students, including developmental education students. Some developmental education students maintain a low profile in classrooms despite the fact that they like the course (Fordham, 1993; Fordham & Ogbu, 1986); many others are
apprehensive about science because they have had significantly less experience with science and scientific equipment (Educational Testing Service, 1988). Teachers can help overcome these concerns by incorporating more time into their classes for critical thinking, learning communities, supplemental instruction, and hands-on work and observations (Moore, 2001; Rosser, 1995). Teachers should also encourage students to gather data themselves. However, do not let developmental education students become secretaries while other students manipulate organisms or operate scientific equipment.

### Students Learn the Unique Contributions of Women, Minority, and Disabled Scientists

Many students—developmental and otherwise—feel excluded from or marginalized by science when they see only White male scientists as role models. This exclusion of women and minorities is strengthened when their work is ignored, misrepresented, discounted (e.g., because of speech patterns and other verbal and nonverbal forms of communication; see Hall & Sandler, 1982; Tannen, 1990), described as nonscience, or attributed to White males with whom they worked (e.g., Ehrenreich & English, 1978; Hynes, 1984). This problem is best addressed by emphasizing case studies from the history of science. For example, Ellen Swallow's studies of environmental pollution, sanitation, and waste disposal contributed significantly to the birth of ecology, but were described as “home economics”—and then dismissed as nonscience—largely because the work was done by a woman (Hynes, 1984, 1989). Similarly, the initial rejection of Rachel Carson’s contributions to ecology and Barbara McClintock's discovery of genetic transposition was largely due to the fact that Carson and McClintock were women whose empathetic approach to science challenged the prevailing, impersonal, reductionist style followed by most male scientists (Keller, 1983; Moore, 1997).

Teachers can help students overcome these misconceptions by (a) incorporating and validating the contributions of women, minorities, and scientists with disabilities who have made significant contributions to science, (b) featuring influential women and minorities who are in decision-making positions in the hierarchy of science, (c) showing students that women and minorities often have made significant contributions to the work for which men have received prizes and recognition, and (d) encouraging students to uncover biases and stereotypes in science about topics such as race, class, and sexual orientation (e.g., racism by scientists and the use of science to justify racism are powerful deterrents to minorities’ participation in science; Rossiter, 1982). Emphasizing the lives of ordinary women scientists and mentioning the first name of famous women scientists often help students break the stereotype that scientists are White men and that others are not welcome (e.g., Rosalind Franklin, Barbara McClintock, Martha Chase, Rachel Carson; see Chambers, 1983; Rosser, 1995).

In programs at this state of curricular development, students also learn that many scientists—ordinary as well as extraordinary—are products of developmental education programs. For example, Nobel laureate Norman Borlaug—the architect of the Green Revolution that vastly increased the world’s food supply—was a developmental education student in General College at the University of Minnesota.

### Redefining and Restructuring Science to Include All Students

This is the ultimate goal of every science education program: to ensure that all students, regardless of their gender, ethnicity, or social status, have access to an attractive science curriculum. Achieving this goal involves reexamining the attitudes, contexts, conditions, and excuses that we accept as educational norms, and embracing the following (Rosser, 1995):

1. Good science teaching involves teaching science to all students. Teachers throughout the program employ teaching strategies that remove barriers to access, learning, and success (e.g., universal instructional design; see Silver, Bourke, & Strehorn, 1998; Waksler, 1996).

2. Good science teaching questions how knowledge and interrelationships are situated within discourses of knowledge and power, as well as how this affects students and teachers.

3. Good science teaching involves using multiple ways of knowing and doing science that reflect social, historical, and political concerns. Science is not isolated from other ways of knowing and doing.
4. Good science teaching must be political because of teachers’ important roles and their desire to ensure social justice.

5. Good science teaching immerses all learners in the mediated construction of knowledge in meaningful, relevant, inclusive, and nurturing ways.

6. Effective science teachers teach “content” as well as the skills necessary for success in school and life.

Science for All

Increasing the access of developmental education students to science will increase the number of women, ethnic minorities, students with disabilities, and others in science-related professions; this, in turn, will help ensure that the professions continue to remain open to all students. This is especially important in light of the fact that 80 to 90% of workforce growth will be women and minorities, the groups not traditionally attracted in large numbers to the physical sciences and engineering. The status quo—that is, the continued exclusion and marginalization of developmental education students and others—will perpetuate the relative homogeneity of science. This, in turn, will perpetuate similar approaches to problem solving and interpretation of data, thereby restricting creativity and producing bias (Rosser, 1995).

A variety of educational programs and professional programs want “science for all Americans” (American Association for the Advancement of Science, 1989; National Research Council, 1996; National Science Foundation, 1996). “Science for all” requires access and equity for all. The transformation of science education to include developmental education students will be a big step toward accomplishing this goal.

References


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Call For Submissions - CRDEUL Monograph Series
Multiculturalism in Developmental Education

The fourth annually published independent monograph sponsored by The Center for Research on Developmental Education and Urban Literacy (CRDEUL). The goal of these monographs is to build strong research and theoretical foundations in the field of developmental education from the perspectives of teachers, researchers, and support services specialists.

The fourth monograph will feature theory, research, and best practices related to the role of multiculturalism in developmental education. Institutions of higher education have historically disenfranchised women; people who are gay, lesbian, bisexual or transgender; people with disabilities; and individuals from diverse ethnic, cultural, and socio-economic backgrounds. Many instructors and researchers in developmental education agree that a fundamental goal of the field is to ensure the success of these students who have been traditionally underserved by the academy. Little consensus has been reached, however, on how to accomplish this goal. Dr. James Banks, former President of the American Educational Research Association (AERA) writes, “If multicultural education is to become better understood and implemented in ways more consistent with theory, its various dimensions must be more clearly described, conceptualized, and researched” (2001, Handbook of Research on Multicultural Education). The aim of this monograph, then, is to provide a forum for presenting theory and research on the complex facets of multiculturalism and their role in the field of developmental education.

Articles for this monograph might explore and expand the following questions:

- What is the definition of “multiculturalism” as it relates to developmental education theory, research, policy, and practice? Which theories might contribute to this definition?
- How does developmental education uniquely contribute to undoing institutional racism, sexism, classism, and other forms of discrimination in higher education?
- How do developmental educators conceptualize the process of knowledge construction? How do these theories translate into classroom practice? How can developmental educators ensure that all student voices are heard?
- What are some developmental education students’ stories that might illustrate the importance of inclusion in higher education?
- What are some innovative examples of effectively addressing multiculturalism in developmental education, both at the classroom and programmatic levels?
- What student support services are vital to ensure the success of developmental education students, especially those traditionally underserved by the academy?

Submissions (see form on page 99) must be postmarked by February 17, 2003.

Manuscripts will be forwarded to the editorial board for peer review. Authors will then be notified regarding the status of their proposals and receive recommendations and feedback by April 28, 2003. Manuscript revisions will be due by June 16, 2003. The final publication goal for this monograph is fall 2003.
Refer to the guidelines for authors (on page 101) for further information related to manuscript submission. This information is also available online at http://www.gen.umn.edu/research/crdeul/

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Cover Sheet
Multiculturalism in Developmental Education
Center for Research on Developmental Education and Urban Literacy
General College, University of Minnesota

Lead Author: ____________________________________________________________
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Multiculturalism in Developmental Education
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