FINDING OUT WHAT THE CAMPUS NEEDS: THE PROCESS OF REDEFINING A LEARNING CENTER

By Thomas C. Stewart and Kathleen A. Hartman, Kutztown University of Pennsylvania

Abstract

This article examines the process undertaken by the researchers, both learning center administrators, when faced with a challenge in a campus-wide process of restructuring: adapt the learning assistance services offered by the department or disappear. With so much on the line, the researchers embarked on a systematic examination of the services offered by the learning center in light of the perceived needs of different campus constituencies. In this article, the researchers explain the methodology of the process, the data gathered, the changes made in response to the data, and conclude by presenting a model of a learning center that effectively meets the needs of a rapidly changing campus community.

Introduction

The term restructuring is most often associated with the world of business. It is a word that carries a mixed bag of connotations: greater efficiency through layoffs, streamlining through downsizing. Like so many other business concepts—students as customers, total quality management—restructuring has in recent years been applied to the world of higher education (Baty, 2000; Gumport, 2000; Guskin, 1997; Havarnek & Browdwin, 1998; Horn & Jerome, 1996; Lafferty & Fleming, 2000). Student success is measured by test scores, faculty and departments are evaluated by quantitative measures of productivity, and colleges and universities are ranked competitively in national publications. Accountability is a watchword of the day. Major university systems have seen the effects of restructuring, and, often in these situations, developmental education programs—frequently the home of learning centers—are the target of attacks. In the mid-1990s, attempts were made to dismantle developmental programs in California (Chandler, 1995; Lively, 1995a; Lively, 1995b). From the late 1990s to the present, developmental programs at the City University of New York have been under attack (Arenson, 1999a; Arenson, 1999b; Arenson, 1999c; Arenson, 2000).

In this type of environment, learning centers, like everything else, are being closely evaluated. Because of their connotations of remediation, learning centers are vulnerable to several fates: being restructured into ineffectiveness due to lack of a serious financial commitment on the part of the institution; being contracted to for-profit corporations like Sylvan Learning Center; or being completely dismantled. Instead of waiting for the fate of our learning center to be determined for us, we, the researchers, decided we had to move

first to establish a learning center that, rather than just being the vital force that it has been for years, is *recognized* as a vital force, one that is worthy of continued institutional support.

Background

The importance of the recognition of the valuable work done in the learning center should not be underestimated. The learning center has been present on our campus for decades. Fine work was being done, and the data to support that claim had been collected. The problem was few people on campus seemed to recognize the quality of the work the learning center was doing. The learning center was a place on campus where faculty sent students who needed help, but word about the successes was not spreading. With this in mind, we decided at the beginning of our project that the purpose had to be two-fold:

1. To tailor the services to meet the needs of various campus constituencies—students, faculty, administrators, accreditation boards—as efficiently as possible within budgetary and space constraints; and

2. To publicize the mission and the accomplishments of the learning center to various groups, particularly the decision-makers in the restructuring process.

To this end, we set out to create a project that would help redefine the learning center, both internally and externally, in terms of what it does and how it is perceived.

The institution at which the project took place is a medium-sized state university located in a small town that is sandwiched between what are essentially two small cities. Within a couple of hours are two major metropolitan areas. The makeup of the student body is fairly homogeneous with many students coming from rural and suburban areas within two hours' drive. While the university does attract many academically successful students, there are also a large number of students who arrive at the university with moderate to severe needs in the area of college study skills.

The learning center on our campus, known officially as the Academic Skills Lab, is housed in the Department of Developmental Studies which is the center for academic support on campus and contains nearly a dozen faculty members and a number of support staff positions. The department has two large grant programs, a tutoring center, Supplemental Instruction courses, and various other initiatives, all of which are designed to help students succeed. While the tutoring center focuses on scheduled one-on-one tutoring for students in specific courses, the Academic Skills Lab is a walk-in center that focuses on broader study skills issues. The lab is staffed by a graduate assistant and two to three other graduate students or, in rare cases, upper-level undergraduates. It is supervised directly by a faculty member who reports to the department chair and the dean.

The mission of the Academic Skills Lab is to help all students succeed in college. It is designed to teach general college survival skills which students can apply to their specific

courses. It is a service which can be accessed by all students at the university at any time during the semester with frequent visits encouraged by the lab staff. The lab, as a strategy training center, is a necessary component of a struggling student's plan for academic success.

Use of the Academic Skills Lab has increased significantly in recent years. Overall usage skyrocketed from 127.75 contact hours in Fall 1996 to 520.5 contact hours in Fall 1999. A breakdown of these numbers reveals that lab use increased in all categories: by student-athletes from 3.5 hours to 246.5 hours, by students with learning disabilities from 7.5 hours to 144.25 hours, and by students in general categories from 116.5 hours to 129.75 hours. In spite of this massive increase—approximately 400% overall—the staffing and budget stayed basically the same: one faculty supervisor who, because of other assigned duties, is unable to have much student contact in the lab, one graduate assistant, and one to two other graduate student employees.

In addition to the huge increase in actual hours of lab work, lab employees were increasingly being asked to fulfill requests for outreach. These requests were primarily the result of an expanded university focus on retention, a new focus on the academic side of the student-athlete experience, and the growth in learning communities on campus. The latter, in particular, resulted in dozens of requests in Fall 1999 for presentations to these clustered groups of first-year students. In effect, just as usage of the lab was expanding four-fold, lab staff were being sent around campus to give presentations to small (15-20 students) learning community groups, residence hall organizations, and large groups (100-200) of student-athletes. The staff of the lab wanted to be "all things to all people," but it became clear that the lab was in danger of becoming a place that did a mediocre job at everything, doing nothing particularly well. This realization became the first, internal step toward a re-evaluation.

External pressures also forced a re-evaluation. During the 1999-2000 academic year, just as the lab was in danger of bursting from its own success in attracting students, the university as a whole and, in fact, the entire state university system of which it is a part, began a process of prioritization. Prioritization—ranking programs in order of importance—is the first step in restructuring. As the examples of California and New York attest, restructuring can be a time of great vulnerability for any programs associated with developmental education. A learning center does not generate revenue according to the traditional formulas: LHEs (Load Hour Equivalents) for faculty and FTEs (Full-Time Equivalents) for students. The faculty member who supervises the lab gets a quarter-time (three credit-hour) release, but those three credit hours generate zero FTEs. With the administration under pressure to increase faculty productivity, it was important for us to define the value of the lab and have that value acknowledged by key personnel on campus. If we waited to let the lab's value be defined for us, we might find the lab defined out of existence.

Research Model

With these internal and external pressures in mind and the two-fold purpose (tailor the lab's services and publicize the lab's accomplishments) of the project mentioned earlier, we set out to develop a research model that would help us meet these needs. The first question we asked was: Can we continue to fulfill our primary responsibility—direct services to the general student population—while expanding outreach services? After we asked ourselves this question, we decided the answer could be affirmative if we were able to develop a coherent model of the lab that would allow us to effectively serve our students and clearly explain to administrators the need for additional funds. To answer this question and to develop this model, we decided to interview key personnel on campus in order to determine what their perceptions of the lab were. This model would allow us to simultaneously address all of our concerns:

1. Internal pressure of heavy use: take advantage of the knowledge-base of these key personnel to find ways of alleviating this pressure;

2. External pressure of restructuring: give us ideas about how to portray the lab in a favorable light;

3. Tailoring the lab's services: find out how faculty members and administrators would like to see the service designed; and

4. Publicizing the lab's accomplishments: disseminate information about all of the work being done in the lab.

Methodology

During the Spring 2000 semester, these researchers interviewed ten key personnel (n=10). As Patton (1990) points out, "Qualitative inquiry typically focuses in depth on relatively small samples" (p. 169). The interviewing approach we took allowed us "to find out what is in and on someone else's mind" (Patton, p. 278). We acknowledge there are some limitations to this research model. First, students were not interviewed. Also, the researchers' direct link to the lab may have influenced participants' responses. In other words, there is a danger that they were "telling us what they thought we wanted to hear." In addition, some of the respondents' comments may not apply to other institutions because of unique aspects of this institution.

First, we did not interview students for a number of reasons. For this particular study, such interviews would not meet our needs. After all, one goal of this study was to publicize our activities among key players in the restructuring process. One thing we discovered in this process is that the data we are already collecting on students consists primarily of inputs (i.e., how many students are visiting and for how long) rather than outputs (how students' grades are improving as a result of these visits). This is one change that will be necessary in the

restructured environment of the future. In regard to student feedback, we recognized that, to a certain extent, students were "talking with their feet." In other words, the fact that so many students were coming to the lab is an indicator that the lab has been doing something right. A goal for future research is to isolate and identify the elements of the lab that draw students.

In regard to the second limitation, bias is an issue in any research study. As Toma (2000) notes, "good data for subjective researchers is the product of just these strong connections between researchers and subjects" (p. 8). Subjectivity is not inherently a negative in research (Guba & Lincoln, 1994). And, as Bochner (2000) points out, "No single, unchallenged paradigm has been established for deciding what does and does not comprise valid, useful, and significant knowledge" (p. 266). Clearly, there is an element of self-interest to the work we are doing for the study, but that is built into the model. In other words, our interest in the lab is the reason for the study.

Third, each institution has its unique culture. At this institution, a number of issues affect the structure and management of the Academic Skills Lab. These issues include funding sources, faculty union work rules, student population, state mandates, space availability, position in an academic department, and the ability to hire qualified personnel. Any recommendations implemented would need to be tailored to the unique culture of individual institutions.

The particular personnel to be interviewed were selected on the basis of their relationship to the lab, whether it be as someone who refers students or as someone with a budgetary connection, and because of their positions in the restructuring process. As a result, those chosen were the Dean of the College of Education, the Dean of Liberal Arts and Sciences/Acting Provost, the Director of the Center for the Enhancement of Teaching and Learning Communities, the Athletic Director, a grant director, the Assistant to the President for Human Diversity, the Coordinator of Services for Students with Disabilities, a biology professor, and two counselors. The ten were evenly divided between those holding faculty positions and those in management. The faculty members were the two counselors, the biology professor, the grant program director, and the Director of the Center for the Enhancement of Teaching. We conducted a structured interview with each participant so that we could compare answers and search for relevant patterns. The questions were:

1. What do you see as the role of the Academic Skills Lab?
2. Do you refer students to the lab? Why or why not?
3. What do you see as some of the most pressing academic needs of students here?
4. How do you think the Academic Skills Lab can respond most effectively to these needs?
5. What do you hope students will gain from visiting the Academic Skills Lab?

6. What is the relationship between the Academic Skills Lab and your role at the university?

7. Do you envision the structure of the lab as a place on campus to which the students go or as an outreach service? Why?

8. Do you see the availability of academic assistance services such as the Academic Skills Lab as something that attracts prospective students?

9. How do you see the role of the Academic Skills Lab in the future?

10. How may we better portray the current and future mission of the Academic Skills Lab?

Analysis of the Data

The data generated from the ten interview questions consisted of notes taken from oral answers provided by each of the ten participants. Of interest is the fact that every participant, regardless of his or her role in the university structure, felt that the Academic Skills Lab was a vital force for academic success and a necessary component of the university's retention efforts. All participants felt that, regardless of how the lab's services were organized and offered, the lab should remain a part of the university's future.

Question 1: "What do you see as the role of the Academic Skills Lab?" provided, in general, answers that affirmed the lab's vital role at the university. Most respondents felt the lab was a place for every student while personnel in charge of specific student groups felt that the lab played a role in the persistence of these students at the university. The most common response was that the lab was a place for students to go to learn about general college survival skills. The Dean of Liberal Arts and Sciences also identified the role of the lab as a resource for faculty, an insight that was echoed by other participants through answers to further questions.

Question 2: "Do you refer students to the lab?" was answered by all but one participant as a resounding "yes," while the Director of Athletics answered "no" only because his graduate assistant takes care of academic referrals. In fact, all those faculty who said they refer students to the lab said they were very comfortable making referrals and felt it was an important part of their jobs.

Question 3: " What do you see as some of the most pressing academic needs of students?" provided the researchers with helpful insights into what types of assistance should be offered by the lab. The biology professor interviewed agreed that students' reading skills are not on par with the reading demands of college courses. Every respondent felt that many of our students are not prepared to handle the demands of college in general; they need study skills such as time management and note taking. Finally, six of the respondents felt a majority of

students lacked motivation and needed to be shown what they need to do in order to succeed in college.

Question 4: " How can the Academic Skills Lab respond most effectively to these needs?" brought a variety of responses. Five of the respondents, including both deans interviewed, felt that the services needed to be marketed better to both the faculty and students. The consensus among these respondents seemed to be that is it necessary, as early in the semester as possible, to "get the word out." The Dean of Liberal Arts and Sciences, as well as the Director of the Center for the Enhancement of Teaching, felt lab publicity should be linked to faculty orientation (in fact, it already is). In addition, they felt lab staff should make direct appeals to all deans and department chairs. The Dean of the College of Education added that the advisors should "buy into" the business of the lab and get students to use the services. A few respondents felt reaching as many students as possible in the first few weeks of the semester was vital. Finally, the Coordinator of Services for Students with Disabilities felt the key to meeting the needs of the students was in the staffing of the lab with paraprofessionals who would provide consistency and frequency of contact for those students who need the most assistance.

Question 5: "What do you hope students will gain from visiting the Academic Skills Lab?" provided a range of answers which mainly dealt with gaining necessary skills. The Director of Athletics and the Assistant to the President for Human Diversity agreed with each other in stating that students would gain the knowledge of services that are available to them. Added to that was their belief that after knowing help is available, students should feel comfortable in seeking help and no negative repercussions would ensue. The Dean of the College of Education felt students should gain the self-confidence necessary to do well in school, the conviction that they are "fully functional learners." This sentiment was echoed by the biology professor who said students need to leave the lab with a "greater sense of how to tackle problems." This "bigger scheme," he said, would help students in any course they encounter.

Question 6: What is the relationship between the Academic Skills Lab and your role at the University?" affirmed the fact that every respondent saw a relationship between the lab and his or her specific job in the university organization. The biology professor said he and the lab work in "parallel universes" and stressed the need for faculty and lab staff to work together. This collaborative role was also mentioned by the Assistant to the President for Human Diversity, the Director of Athletics, the Coordinator of Services for Students with Disabilities, and the Deans of the Colleges of Education and Liberal Arts and Sciences. Many of the respondents again brought up retention in answering this question and felt it was the retention issue that precipitated a need to work collaboratively. As the Director of Athletics stated, "It is very clear that, more and more, we will all be measured by retention and graduation rates."

Question 7: "Do you envision the structure of the lab as a place on campus to which students go or as an outreach service?" was an important question for the researchers and one which

generated diverse responses. Three respondents, the grant program director, a grant program counselor, and the Assistant to the President for Human Diversity, felt the lab should remain as a place where students could go for assistance. Four respondents, the Dean of the College of Education, the Director of Athletics, the Director of the Center for the Enhancement of Teaching, and the biology professor felt that for the most part, the lab should be an outreach service. Some specific comments included the need for the lab to be "active rather than passive," to bring the "water to the horses," and to be "flexible enough to go where the need is." Finally, three respondents, the Dean of Liberal Arts and Sciences, the Coordinator of Services for Students with Disabilities, and the other grant program counselor felt the lab needed to be both.

Question 8: Do you see the availability of academic assistance services such as the Academic Skills Lab as something that attracts prospective students?" was answered in the affirmative by every respondent but one, who felt every school has some form of academic assistance. The majority, however, felt that since we are an access institution—one which is geared toward giving as many students as possible a chance at a college education—parents and students look for such services and these services should be well-advertised.

Question 9: How do you see the role of the Academic Skills Lab changing in the future?" provided answers which echoed the responses in question 7. All respondents agreed that the need for the Academic Skills Lab is growing. The Director of the Center for the Enhancement of Teaching stated that "two-thirds of the population need our services–it is not just growing; it is our bread and butter." The Dean of the College of Education noted that as "long as our institution remains an access institution, the need will remain to ease students' transition here from high school." Four of the respondents felt the lab needs to expand as a faculty training center and work in conjunction with faculty to refer and assist students, especially in the crucial freshman year.

Question 10: How may we better portray the current and future mission of the Academic Skills Lab?" provided feedback on what the respondents felt we needed to do in terms of publicity and clarifying what we offered. Four respondents felt we needed to speak at new faculty orientation and continue to work with the faculty to increase referrals and offer strategy training for faculty to incorporate into their courses. The Director of the Center for the Enhancement of Teaching clarified that the lab needs to get the message out that it is "not remedial." The Dean of the College of Education noted that referrals should be "easy" for faculty to make. A few respondents felt advertising was the key to bringing students to the services. The Coordinator of Services for Students with Disabilities said pamphlets and posters should include quotes from students, testimonials, which would attest to the success gained by using the lab services.

Discussion

All respondents agreed that the Academic Skills Lab should remain an integral part of a plan for student success and retention. Regardless of their roles at the university, all the

respondents felt their responsibilities included some link to the Academic Skills Lab as funder, advocate, referral agent, supporter. Additionally, every respondent saw the lab's role, as well as the lab's interaction with staff and administration, growing.

In addition, all the respondents generally agreed, on the pressing needs of our students with a sense that students need help with the skills necessary for success in college. What the respondents differed in was the structure of the lab that would best meet these needs. The majority, however, felt the lab needed to be both a place for students to go and an outreach service in order to meet the growing needs of an underprepared population of students. This area of future structure is one which the researchers recognize as a major concern, both in terms of funding and staffing.

The New Lab Model

Prior to this study, the lab functioned as a place for students to visit for one-on-one and small group tutoring with many requests coming in for additional support elsewhere on campus. After interviewing key personnel on campus, the researchers decided that a new model was in order, one which could not be formed overnight but which could begin immediately with small changes and continue to be improved with time and campus support.

The new model, which is still taking shape, is now one which presents the lab as both a place on campus and as an outreach service with new emphasis on the outreach component. The lab is still a place to go on campus, but now we have customized "In Scholarly Pursuit" workshops designed to meet the needs of classes, groups, and faculty in their unique settings. This new program has been marketed through a brochure distributed campus-wide. Other public relations' initiatives have been utilized such as distributing lollipops labeled with our lab hours and telephone number to incoming freshmen. We are also working on centralizing peer tutoring, so that all tutoring, including that which goes on in the Academic Skills Lab, takes place in one location for better monitoring of lab use.

Conclusion

Learning assistance programs on college campuses cannot remain static places. They must be organic, responding and changing according to the needs of the students, staff, and the institutions the programs serve. As this study indicates, the need for adaptation has become clear through the process of talking with different constituencies around campus. These discussions not only brought to light new program initiatives which we have begun implementing, but also led to increased support in relation to financing, additional space, and, importantly, in the way these constituencies "talk" about the work we do.

This study has led to other questions regarding learning assistance on our campus. First, as mentioned, the specific factors that draw students to the lab should be explored further. Also, sources of funding need to be continually investigated and pursued, since it is never guaranteed that current sources of funding (grants, in particular) will be available in the

future. Finally, this interview approach could be used on other campuses for a comparative investigation of learning center models.

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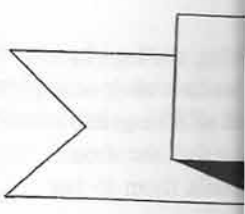

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By David C. Caverly, S

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JOIN THE CONVERSATION

BACK TO THE FUTURE: PREPARING STUDENTS TO USE TECHNOLOGY IN HIGHER EDUCATION

By David C. Caverly, Southwest Texas State University

A graduate student e-mailed me the other day asking an interesting question. He had read an article I wrote six years ago proposing a scenario of what college would be like for students in the twenty-first century (Caverly, 1995). Now that we are in that new century, he wondered which predictions were coming true and whether we are preparing students for this new environment. Here, I'd like to respond. Let me document whether technology in post-secondary education actually has met these predictions, consider how it will change in the future, and determine our role as developmental educators to prepare students for these task demands.

"Toto, I Don't Think We Are In Kansas Anymore"

I proposed a day in the life of Cori, a college freshman in the year 2000 who responds much like Dorothy did in the *Wizard of Oz*. Here is the story that has become reality in 2001 with citations for those of you who want to read more. She awakes and unplugs her "tablet" (e.g., a laptop from Obe; Manning, 2001) which had been recharging all night. On the screen is her daytimer reminding her that she has a paper due in English Literature in two days. Reading an e-mail from her parents to write home, she responds by requesting money. An hour later, she arrives at her Chemistry class and opens her tablet to connect to all the other students in class and the professor via a wireless network (Apple Computer, 2001; Bluetooth, 2001). As the professor balances a chemical equation on his white board, it is downloaded into her tablet, and she proceeds to collaborate electronically with Jake on the other side of the room about how the equation was balanced (Cornell Chronicles, 2000). She takes notes using a metal stylus writing directly onto her tablet's screen (Manning, 2001). When she saves her notes, her handwriting is automatically converted to Helvetica font, dated, and a reminder added to her daytimer to review the notes.

Since it is a beautiful day, she sits under an oak tree and logs into the virtual chemistry lab to complete an experiment (Model Science Software, 2001). Manipulating the chemicals

using her stylus, she is disappointed as the experiment fails. Wondering why, she logs into the Learning Resources Center and searches the Chemistry class's lecture as it was automatically videotaped, converted into streaming video, and archived as a searchable database (Virage, 2001). She repeats the experiment successfully, realizing that she should have used an acid rather than a base, writes out her lab notes, and e-mails them to her professor.

Because she spent extra time on the lab experiment, she is late for her Conversational Japanese class. So, instead of being embarrassed by walking in late, she logs into the class as a virtual student. She reviews the time she missed in only ten minutes by viewing the streaming video in fast forward compressed to remove the spaces in the conversation (Simpson, 2001). Once she catches up to real time she sees four video windows on her tablet: in one corner, the professor; in a second, his overheads, whiteboard, or slide show; in a third, whichever student is speaking; and in a fourth, a student in Japan who is taking the course via distance education. The other students can see her on their tablets through a miniature video camera discreetly placed at the top of her tablet. Now that she is in real-time, she contributes to the discussion asking the Japanese student about certain idioms.

After lunch, she returns to her room to begin her paper on southern gentlemen in literature and movies. Searching the electronic database at the library, she downloads passages from electronic versions of a Faulkner novel and several video clips of Rhett Butler from the movie *Gone with the Wind.* Logging out of the library, her tablet automatically adds these references to her bibliographic database in MLA style (ISI Research Software, 2001). Satisfied with her progress, she e-mails an outline to her collaborative writing group for her part in producing their joint paper (Miller, 2000).

Her friend Jake appears at her door complaining about his paper. Networking their tablets, she sees that he has a reasonable draft although it contains several grammar and spelling errors and only print references. She makes an appointment for him with the learning center on campus to learn about using the proofing tools (Microsoft Corporation, 2001) and electronic databases. He says he doesn't know where on campus it's located. She quickly shows him the Geographical Positioning System built into his tablet which maps out the way (Travroute, 2001). She invites Jake to join her in an aerobic exercise class and leaves her tablet in her locker. She doesn't worry as she knows it can only be activated via her thumbprint (Ott, March 17, 2001). When she returns to her dorm, she is exhausted after a strenuous day of studying and falls asleep wondering what college was like for her father.

Many college students are learning with these technological opportunities as well as others that were unpredictable six years ago. The most obvious is the prevalence of Personal Digital Assistants, PDAs, (CyberAtlas, 2000) small hand-held computers for keeping schedules and information. Students like Cori and Jake turn in their hypermedia papers on a CD-ROM that they "burned" (Fass, 2001) or post it on their personal webpages assigned to them by the college. They have a choice to enroll in courses at their college or through a myriad of distance education courses provided by other colleges. More and more textbooks are being

produced by their professors as multimedia CD-ROMs and DVDs with connections to webpages rather than generic textbooks primarily because of the ease of updating (Rosenzweig, 1995). How do we prepare students for these learning opportunities?

We Ain't Seen Nothing Yet!

As the Bachman-Turner Overdrive sang (Bachman-Turner Overdrive, 1985), the learning opportunities of tomorrow will grow even more when Cori's little brother Mike attends college four years from now. PDAs will become more prevalent and faster using broader bandwidths (i.e., the "pipeline" allowing the speed of internet access) to deliver e-mail and internet access (Gowan, 2001). As the pipeline becomes larger and faster, more and more information access will be required by his professors. This will require a greater need for Mike to be able to synthesize information from multiple sources. Easier access to virtual reality will allow Mike to explore electrical fields (Dede, 1999) or travel through his own digestive system with a miniature camera embedded in a digestible pill (Given Imaging, 2001). Hypertext, i.e., a piece of electronic text with links, will allow Mike to read any textbook through links to any given word's pronunciation, meaning, and syntactic function (Blumberg, 2001). Biometrics like retinal scans, handprints, and voice prints will provide security for his computer and classroom attendance for his teachers (Ott, March 17, 2001).

Technology will do what it has always done; it will make Mike's life easier in some ways and more challenging in others. For example, Mike likely will enroll in a World History class where he will be required to complete inquiry-based tasks such as a Webquest (Peterson & Caverly, 2001). Here, he will be placed into a collaborative learning group to discover the skills of a historian as they conclude how and why Stonehenge was built in England.

What learning strategies will he need to have in order to succeed at this task? He and his group will have to know how to *gather* up information from a variety of primary and secondary sources including text, video, audio, graphics, and data; they will have to evaluate these sources for information relevant to their task, for what information is accurate and complete, as well as what is fact and what is opinion, all to provide evidence to support their conclusions. After gathering the information, he and his group will *arrange* it into a possible solution. This arrangement will emerge through analysis, synthesis, and compromising toward a tentative solution. Finally, Mike and his group will have to determine the best delivery system to *present* this solution. Should they use a term paper, newsletter, multimedia slide show, webpage, or video; what should be presented first, next, last; what sounds or visual images will add or distract from their presentation?

Many colleges have deemed these technological skills so important that they have implemented technology competency tests (St. Edward's University, 1999). Almost 60% of college professors today require e-mail of students, and 43% require students to access internet resources to learn from outside their textbooks and lectures (Green, 2001). This has

tripled since 1995 and will continue to grow as professors take advantage of learning opportunities outside their classrooms.

Resistance is Futile

As the Borg of Star Trek fame would say (Great Star Trek Quotes, 2001), Mike and his peers need to be prepared to succeed in these learning opportunities. First, they will need technology access. While many of Mike's peers will have technology access, increasing from an average of 32.7% in 1998 to 44.4% in 2000, the digital divide still exists for African-American (where they average only 29.3% access) and Hispanic students (23.7%), and for low income (25.1% for <$15-24K), single-parent (33%), disabled (21.6%), or urban (11.8%) and rural (7.3%) students (U.S. Department of Commerce, 2000).

Next, learning centers and developmental courses will have to teach new learning strategies built on old learning strategies. In the foreseeable future, students will still arrive at college needing to become more effective and efficient in the basic skills of reading, writing, and mathematics. National statistics suggest there are as many as 34% of students today who still need development in reading, 38% in writing, and 44% in math (National Association for Developmental Education, 1998). While these numbers will be reduced somewhat through national and local initiatives for the primary school population (Paige, 2001), there will be many more first generation students attending college, other older students retooling for a career change, still others updating their technical knowledge, and still others taking advantage of personal development opportunities (National Center for Educational Statistics, 2001).

These new "traditional" students will not only need their old basic skills developed, but they will need the new technical skills of a Knowledge Age worker (Drucker, 1994). These new learning strategies can be described by a heuristic: G.A.P. (Gather, Arrange, and Present; Caverly, Collins, DeMarais, Otte, & Thomas, 2000). Building on the basic skills of reading, writing, and math, G.A.P. teaches students how to convert data (facts and figures) into information (data that has been collected and organized) and then into knowledge (information that has been understood by placing it into a context) as they bridge the gap between information and knowledge. In the learning centers and developmental courses of tomorrow, we will have to teach the Mikes and Jakes of this world to learn how to *gather* data from a variety of sources like textbooks, laboratories, the internet, and their own research through reading and listening strategies as well as search engines and Boolean logic. They will need to learn how to *arrange* number-based data into information using spreadsheets (Dede, 1989); *arrange* word-based data into information using databases or mapping programs (Turner & Dipinto, 1992); and *arrange* visual-based data into what the author intended as meaningful information (Pinkel, 1998).

When converting this data into information, they are bridging the gap and beginning to build knowledge. However, to truly understand, they will need to extend and confirm their new found knowledge by *presenting* it to others to test out what they know, much like

experiencing what we learn when we teach (Riskin, 1990). They will have to learn how to use technology such as word processing or desktop publishing to produce single media documents or other more sophisticated technology to produce multimedia documents in the form of slide shows and webpages combining text, video, audio, and graphic media.

There's No Place Like Home

As other prognosticators suggest (Damashek, 1999), the future of developmental education in the form of learning centers or developmental courses connected to discipline-based courses will have to change. Some will provide "Just in Time" instruction (Hall, 2001) where both faculty and students can learn on a needs basis how to teach with or learn through what research has found to be sound instruction (Chickering & Gamson, 1987; Peterson & Caverly, March 15, 2001) and what research has found to be effective learning strategies (Flippo & Caverly, 2000). For teaching developmental students, these effective strategies include providing collaborative learning, teaching for transfer, ongoing informal assessment, scaffolded instruction, an honoring of cultural and linguistic diversity, explicit strategy instruction, building of strategy repertoires, as well as extensive and authentic practice with student choice. For teaching learning strategies, we need to teach students to be active, constructive, strategic learners.

Notice I am proposing that technology in developmental education should be used as a tool to support what we know about good instruction and what we know about effective learning. For example, you can use e-mail to encourage collaborative discussion outside of class and to help students transfer newly learned strategies to a variety of college learning tasks; use computer based adaptive tests to continually update student progress; and use the internet to provide a wide range of culturally and linguistically diverse learning materials. You can use better designed computer tutorials with hypermedia to provide other explicit instructional input beyond what you teach; to demonstrate the effectiveness and efficiency of various strategies designed for various tasks; and to provide a variety of authentic college level tasks for the students to choose in order to practice these strategies. You can use technology such as mapping programs, e.g., Inspiration™, 2001, to understand before, during, and after reading strategies like PLAN (Caverly, Mandeville, & Nicholson, 1995); process writing programs like *Writer's Helper* (Wresch, 1998) or bibliographic programs like *EndNote* (ISI Research Soft, 2001) to help students develop research papers, or slideshow programs (e.g., Microsoft, 2001b) to produce multimedia, or web production programs, e.g., Dreamweaver, 2001, to produce hypermedia; and spreadsheet programs (e.g., Excel, Microsoft, 2001a) and graphing calculators (Texas Instruments, 2001) to help students learn math concepts. Notice in both situations that technology is being used not to replace instruction, but rather as a scaffold to support instruction and learning as students develop.

Learning centers and developmental education courses are well placed to help develop the students of today grow to meet these demands of tomorrow. To succeed, we as developmental educators will also have to develop along with these students. This can take

place through professional development activities like learning at national conferences such as those held by the National College Learning Center Association, the College Reading and Learning Association, and the National Association for Developmental Education, as well as professional institutes like the National College Learning Center Association's Summer Institute, Southwest Texas State University's Technology Institute for Developmental Educators, Learning Support Centers in Higher Education's Winter Institute, and the National Center for Developmental Education's Kellogg Institute.

Whether we like it or not, the future will come. We need to be prepared to meet it head on and grow along with our students. Isn't that why we like developmental education?

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Reviewed By Judith

Stein, R. F., & Hurd
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BOOK REVIEW

USING STUDENT TEAMS IN THE CLASSROOM

Reviewed By Judith Schein Cohen, University of Illinois at Chicago

Stein, R. F., & Hurd, S. (2000). Using student teams in the classroom. Bolton, MA: Anker Publishing Co.

The genesis of the book Using Student Teams in the Classroom was an interview that author Ruth Federman Stein conducted with Sandra Hurd for her dissertation on freshman experience courses. The text went through several metamorphoses as it evolved into this compact book about student teamwork throughout the college curriculum. It is primarily a manual for college teachers although it also includes some theory and rationale for teamwork, a form of cooperative learning which the text defines as "... an educational approach that promotes interaction among students and shared responsibility for academic achievement" (p. 3).

This book is organized into several sections covering theory, general guidelines for working with and evaluating teams, and specific activities arranged by discipline and written by teachers in those disciplines. A final section consists of several articles on miscellaneous topics, and an annotated bibliography for further reading. It should be noted that much of the book seems to be written by people other than the two authors whose names appear on the cover. The sections in part three and four carry other authors' names on their first pages, although not in the table of contents, and in the acknowledgments it says that another person wrote the "Technology and Teamwork" chapter, but he is not listed as an author elsewhere in the text. Possibly because of the multiple authors, the book is somewhat choppy. Although the chapters are clearly written, they do not always flow together.

The book begins with a short section on theory followed by more detailed information on how to set up and use teams in a classroom setting. The first part, "Teamwork Theory and Discussion," provides useful information for the experienced teacher, one who has background in educational theory. In this section, a number of topics are briefly discussed, providing a kind of annotated literature review rather than a detailed discussion of the theory behind peers or teams. The next section, "Building Effective Teams," is really the most important one, since it provides specific information for setting up and working with groups of teams. This section provides good, solid information on a number of topics, but it is quite

choppy in the sense that some parts do not connect to others. For example, Chapter Three talks of doing a VARK inventory with students, which is explained as "... an interesting exercise that students can do on their own (or on the internet) to learn about their preferred learning style" (p. 31). The exercise may be interesting, but it does not appear to be particularly relevant to the rest of the text. The next chapter, "Guidelines for Student Teams," is written primarily as a handout for students, while Chapter Six, "Managing Conflict," is written for instructors. The section ends with "Top Notch Tips," from a project at the University of Minnesota at Duluth, short items written by instructors in this group. Although the text serves as a clear guide in its present form, I think it would benefit from more introductory and transitional discussion that connected the various topics and provided a more complete discussion of problems and solutions that would guide new instructors as well as providing some ideas for experienced faculty members.

The third part of the book, "Teamwork in the Disciplines," is composed of twenty sections, each reflecting a discipline and written by an instructor in that discipline at Syracuse University. Reading through this whole section provides an overview of the variety of types of classroom team activities which should be useful even for people who do not teach the subject under discussion. However, since these unit plans were written by different people, it is not surprising that the ideas varied in specificity and originality. For example, I looked first at "Higher Education: Team Teaching a Book," a plan for a graduate level education course. The ideas in this selection were quite general and likely to be already familiar to most instructors. The section included directions to divide the class into several groups. Then each group read a different book, presented its work to the class, and evaluated what the group had done. In contrast, the ideas in the section "English and Textual Studies" dealt quite specifically with a seminar method of writing and evaluating papers. Students were assigned jobs in small groups, and worksheets for each student were described in detail. My favorite section was "Fine Arts: A Team Project to Perform an Artistic Happening." I am not an expert in happenings, which I remember as an avant garde artistic expression of the seventies, but the project, which involved using Dada and Surrealist imagery, sounded intriguing. Possibly some of the free form ideas from this section could be applied in an area like history.

Stein and Hurd have presented some solid ideas on teamwork which can be useful for instructors in many disciplines. Their book belongs in a curriculum or departmental library for reference and use by experienced teachers. It could also serve as a guide for a professional development class or seminar that explores team ideas. It is more of a practical handbook than a complete, comprehensive text, so it would be less useful for someone looking for a theoretical discussion of cooperative, group learning and its application in the classroom.

Judith Schein Cohen, *Ph.D., is an Academic Skills Specialist in the Academic Center for Excellence at the University of Illinois at Chicago.*

PUBLICATION GUIDELINES

As an official publication of the National College Learning Center Association, The Learning Assistance Review seeks to expand and disseminate knowledge about learning centers and to foster communication among learning center professionals. Its audience includes learning center administrators, teaching staff and tutors, as well as other faculty and administrators across the curriculum who are interested in improving the learning skills of post-secondary students.

The journal publishes scholarly articles and reviews that address issues of interest to a broad range of learning center professionals. Primary consideration will be given to articles about program design and evaluation, classroom-based research, the application of theory and research to practice, innovative teaching strategies, student assessment, and other topics that bridge gaps within our diverse discipline.

1. Prepare a manuscript that is approximately 12 to 15 pages in length and includes an introduction, bibliography, and subheadings throughout the text.

2. Include an abstract of 100 words or less that clearly describes the focus of your paper and summarizes its contents.

3. Type the text with double spacing and number the pages. Follow APA style (Publication Manual of the American Psychological Association, 4th edition, 1994).

4. Include your name, title, address, institutional affiliation and telephone number along with the title of the article on a separate cover sheet; the manuscript pages should include a running title at the top of each page with no additional identifying information.

5. Submit all tables or charts camera ready on separate pages.

6. Do not send manuscripts that are under consideration or have been published elsewhere.

7. Send four copies of your manuscript to the following address: Nancy Bornstein, Co-Editor, The Learning Assistance Review, Alverno College, 3401 S. 39th Street, Milwaukee, WI 53215.

You will receive a letter of acknowledgment that your manuscript has been received. The review process will then take approximately three to six weeks at which time you will receive further notification related to your work. If your manuscript is accepted for publication, a computer disk or e-mail transmission will be requested.

NCLCA MEMBERSHIP INFORMATION

What is NCLCA?

The mission of the National College Learning Center Association (NCLCA) is to support learning assistance professionals as they develop and maintain learning centers, programs, and services to enhance student learning at the postsecondary level.

What Does NCLCA Do?

- Promotes professional standards in the areas of administration and management, program and curriculum design, evaluation, and research;
- Acts on learning assistance issues at local, regional, and national levels;
- Assists in the creation of new, and enhancement of existing, learning centers and programs;
- Provides opportunities for professional development, networking, and idea exchange through conferences, workshops, institutes, and publications; and
- Offers forums for celebrating and respecting the profession.

How Can I Participate?

The NCLCA Executive Board is anxious to involve as many learning center professionals as possible in achieving its objectives and meeting our mutual needs. Therefore, we invite you to become a member of the National College Learning Center Association. The membership year extends from October 1 through September 30, and annual dues are $40.00. Membership includes the NCLCA Newsletter and The Learning Assistance Review, discounted registration for the annual NCLCA Conference, workshops, in-service events, and announcements regarding upcoming NCLCA activities. We look forward to having you as an active member of our growing organization.

NCLCA Membership Application

(Journal subscription included)

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Send application form and a check made out to NCLCA for $40.00* to:

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NCLCA Membership Secretary
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