Chapter 6

Integration of Instruction with Support Services: Functional Wiring

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Integration of Instruction with Support Services and Learning Assistance Programs: Functional Wiring

Introduction

In order to help students with basic skills needs realize their academic dreams, the elements of the college that serve them, both instruction and student services, must be wired together. Current research shows that the most effective programs for developmental learners are those which integrate instruction and student support services (Center for Student Success, 2007, p.19-20). At its core, education is about human development, the intertwining of learning and identity. Those of us who provide instruction, academic and student support share in a common purpose: student development, defined as "growth in students becoming progressively able to integrate and act on many different experiences and influences." (Evans, Forney, Guido-DiBrito, 1998, p. 6) Student development focuses not only on intellectual growth, but on affective and behavioral changes as well. Theories and research in student development "encourage the collaborative efforts of student services professionals and faculty in enhancing student learning and maximizing student outcomes in higher education settings." (Evans, Forney, Guido-DiBrito, p. 7)   This chapter focuses on explicit strategies that wire together learning and identity, helping students to build structures that result in improved educational outcomes. We will explore a variety of collaborative approaches that holistically engage students with basic skills needs. In addition, effective practices in the use of learning assistance programs, a bridge that spans the entire campus and another great resource for helping developmental students succeed, will be detailed.

A Necessary Foundation: Learning about Developmental Learners

> *"Each of us has a story and our stories make up our backgrounds. To ask us to enter the classroom and leave our stories behind is like asking us to give our selves up in order to learn- and then learning doesn't take place."*
>
> *Anonymous student, 2008*

Think about the students with basic skills needs that you know: hard working, perhaps uncertain about their abilities to succeed, but pushed by big plans and the many obstacles they must overcome. These students know they need a college education to achieve their dreams. They want better opportunities and jobs to provide for their families. They have high aspirations. They also often have, however, little idea of what it takes to succeed in college or how to be a learner. They are

"at risk" and function at the margins of the educational enterprise precisely because they lack a "learner identity." Most do not yet know what it means to be a college student.

If we are to improve the success of students with basic skills needs, we must attend to these issues, ones that often are not considered in the rush to deliver academic content to students. How the learner defines him or herself is intimately connected to the learner's frame of mind, influencing his or her outlook toward learning. What is learned and how it is learned is influenced by one's identity. If a student has yet to assume a learner identity, actively embracing and authoring their own learning, and has not moved from the margins to the center of the learning enterprise, he or she is not likely to be predisposed or inclined toward learning. Fortunately, identity is malleable and develops over time.

A Little Quiz
What do you believe influences a student's identity? Check all that apply.

          _____ family background
          _____ ethnicity
          _____ socioeconomic status
          _____ educational history/background
          _____ gender
          _____ religion
          _____ peers
          _____ personality factors
          _____ occupation

The answers to the quiz lie in this chart. Identity, or how we define ourselves, is a function of:

The way we experience ourselves through participation with others and our environment, as well as by the way we and others define ourselves through symbols, i.e., a degree from Stanford comes to equate to intelligence.	**Our identity is formed by how we experience ourselves as we participate with others.**
What is familiar and unfamiliar, comfortable and uncomfortable, understood and not understood.	**Our identity is formed by our membership (and non-membership) in various communities.**
Where we have been and where we are going.	**Our identity is formed by our learning trajectory.**
The ways we reconcile our various forms of membership into one identity.	**Our identity is formed by the nexus of our community memberships.**
Negotiating local ways of belonging to broader constellations and of manifesting broader styles and discourses.	**Our identity is formed by how we, from our local position, engage globally.**

Imagine a student with basic skills needs again. See him or her entering the classroom on the first day of classes. Look around the room. How many of these students' identities are impacted by their lack of previous academic success? If a student does not yet see himself or herself as a learner, he or she is less likely to value and integrate the skills and knowledge that college provides or recognize

the value of behaviors that lead to learning. Many are more apt to be intent on memorizing material or finding ways of "getting through" without being discovered than investing themselves in learning.

Yet, "we develop skills and acquire knowledge in service of identity. In the formation of one's identity, learning can become a source of meaningfulness, generating social and personal energy" (Wenger, 1998, p. 215). As educators, we know that learning is inherent in human nature. It is more than memorizing, and entails making sense or meaning of novel material and experiences. Intellectual development does not happen apart from social and emotional growth. How a student makes sense of things directly relates to his or her identity: definitions of self, how and what is perceived, and decisions about when and where to engage and participate. As the student at the beginning of this section so eloquently stated, learning can't take place when one is asked to give up one's self, to leave behind one's stories. Students learn holistically; their identity affects how and what is learned, while simultaneously (and paradoxically), learning affects their identity. What can help this development to occur?

Traditional Silos of Practice

The answer to this question is not to do things as they have always been done. Traditional organizational structures found on college campuses do not necessarily further the holistic development of students, especially those in basic skills. Imagine the student you pictured above coming to college for the first time, trying to navigate through the maze of instruction as we now have it organized: carved up into divisions, each comprised of a set of "related" academic departments. What class should he or she take first? How are the ones in different departments related to each other?

Student services is likewise divided into discrete support areas ranging from orientation to financial aid to job placement services. Perhaps through the blur of registration the student learns about what is available. But although connected, individual departments operate with separate staff and often in disparate locations throughout the campus. How will the student ever find what he or she needs? Sometimes staff from one service area are unaware of services or staff from another area. If the staff on our campuses can't navigate the complex terrain of the college services and offices, how in the world can we expect a student new to college to find his or her way? From the students' point of view, this can seem like the Winchester Mystery House, a maze of separate rooms filled with hidden staircases and secret passages.

Beyond being confusing to newcomers, silos have operational drawbacks, as well. Sharing resources is not traditionally considered. Several of the support services are funded by categorical means, and this can be a detriment because, although the categorical programs garner much-needed funds, this degree of autonomy can be counter-productive in perpetuating isolation. Not only do instruction, student services and academic support services each represent its own silo, but within each area, more sub-silos function relatively independently. Each silo can be characterized as having its own physical location, staff, budget, record systems, reporting structures, schedules, etc. We have built a structure of silos within silos. Now contrast this maze of separate silos, the Mystery House, with models of integration.

Transformational Learner Development: Integration of Instruction and Support Services

> *"Learning transforms who we are and what we can do; it is an experience of identity. It is not just an accumulation of skills and information, but a process of becoming…"*
> *(*Etienne Wenger, 1998, p. 215)

Research shows that when instruction and support services are intertwined in more holistic ways, authentic and relevant learning experiences—transformative experiences—take hold. (Center for Student Success, 2007, p. 19) To be effective, student services should not just be offered, but should be fully integrated into the structure of remedial programs, with counselors working closely with (instructional) faculty and being included in program planning and evaluation activities.(Boylan & Saxon, 1999, p. 2) This will result in the rewiring we spoke of in the beginning of the chapter, and the construction of a stronger structure to house students' academic dreams.

Furthermore, by aligning the institution's educational mission, students' characteristics and effective educational practices, we stand a better chance of promoting student success through relevant and authentic learning. Kuh, Kinzie and Whitt (2005, p. 10) identify five clusters of effective practices to transform student performance:

- Academic challenge
- Active and collaborative learning
- Student–faculty interaction
- Enriching education experiences
- Supportive campus environment

The models presented below illustrate a range of integrated programs for enhancing positive student learning outcomes. Each model described positively impacts the learner's identity, which in turn improves his or her learning potential. Integrated models that directly serve developmental students are presented first, many of which were identified as exemplary models by the Statewide Academic Senate, (ASCCC, 2009) followed by models that explicitly bring together faculty from instruction, academic support and student support services to collaborate in understanding, assessing and improving student learning.

Student Directed Programs

⚠️ *Early Alert:* Early warning and feedback about student performance is critical to developmental student success because these students often lack the mindfulness to successfully monitor their own progress. Rather than waiting for midterm grades, we must actively notify developmental students early on about concerns we may have about their academic performance. Here is where instructional faculty, counselors, peer mentors and various other forms of academic support can provide some of the most important assistance needed by developmental learners. The sooner we take notice of students' engaging in "risky" academic behavior, the sooner we can act together to help them recognize the consequences of those behaviors on achieving their educational goals. Early intervention to get students back on track, well before the midterm, can make the

difference between salvaging or wasting an entire semester. Early alert gives professionals, working together, an opportunity to mentor the at-risk student about college-readiness and the habits of mind and body needed to succeed in college.

Coastline Community College has created an Early Alert program to provide timely feedback to students about their academic progress as a way of assisting them in their college and vocational goals. Students become more aware of services and resources the college has to offer using individual instructor feedback. Early Alert gives instructors additional ways of communicating with their students regarding their current standing in each class. Students can view the services available to them online, and the faculty can automatically send Alerts by choosing from the menu. For more information, see http://research.ccc.cccd.edu/ea/.

Learning Communities/First Year Experience/Freshman Year Experience/Cohorts:

In higher education, "learning communities are classes that are linked or clustered during an academic term, often around an interdisciplinary theme, and enroll a common cohort of students. A variety of approaches are used to build these learning communities, with all intended to restructure the students' time, credit, and learning experiences to build community among students, between students and their teachers, and among faculty members and disciplines." (Washington Center*, 2008, p. 1)   Integration between academic content and student development courses taught with a learning community format is especially effective for developmental students, particularly when students are enrolled in these learning communities early on. Both students and faculty work closely together creating a supportive social safety net that serves to bring students who previously functioned on the margins of the educational enterprise into the center of activity, engaging more fully in their learning. Often, these communities serve as a bridge from a previous poor experience with education to one full of hope because students are learning how to learn and what it takes to be a college student.

Cabrillo College offers a cohort program called Digital Bridge Academy (DBA) that offers at-risk students a chance to reclaim a positive learning experience through community building in an integrated learning environment. The program begins with a two-week foundation course that invests students in their learning and education. The course helps students form deep connections with classmates to allay their fears about going to college. The two-week foundation course is then followed by a one semester, intensive cohort experience where students examine their previous experiences with education, communication styles, and other personal and interpersonal skills while taking a total of six courses that prepare them for a variety of careers (i.e. Computer Information Systems, Engineering, Business, Management, Allied Health majors, lab technician careers, Criminal Justice, Teaching, and other high-wage or high-demand fields). Each class is completely integrated with common learning objectives with assignments focused on a community-based social justice primary research project. After the DBA semester, students are expected to take a full course load working toward their major, and can opt to participate in further DBA seminars or internships, but they are no longer required to stay together as a cohort. The program has shown a high degree of success in working with disadvantaged students who are not ready for college work. The program is thorough in its efforts to collect outcome data on persistence and completion rates, including demographic components, and evaluations of the program from students, program staff, and an external evaluator. Initial expectations anticipated a high attrition rate with DBA students; however,

an external program evaluation found that on average 75% completed the Bridge Semester successfully with a grade of C or better. In addition, this 75% completed the semester with 12+ units (fulltime). Among those who had taken some college courses before entering the Academy, the mean grade point average improved from 1.61 prior to the Academy experience to 3.02 after. Students reported strong increases in motivation and self-efficacy, and rated the program very highly, in many cases calling it "life changing."

Peer Tutoring and Mentoring: Peer Tutoring and Mentoring involves student-to-student help and aid in areas of academic, emotional, and socio-cultural adjustment college. Peer tutors/counselors/mentors are often assigned so that there is ongoing contact with students on a daily basis. In addition to teaching students appropriate classroom behavior, peer tutors/counselors/mentors are often placed in classrooms for the purpose of understanding all class assignments so that academic assistance can be provided in an informed and timely manner. Developmental students become "apprentices" as they learn how to learn and navigate the college system. Regular feedback is provided to the instructor for monitoring the students' progress.

Faculty members participating in the Beacon Peer-Assisted Learning program at American River College select students who have successfully completed the target class. "After receiving training in group-tutoring techniques, these learning assistants work with students for two hours per week outside of the classroom. Data gathered over seven semesters demonstrate a significant improvement in achievement as Beacon students boast an 85% success rate compared to a 57% success rate for their non-Beacon counterparts enrolled in the same class, and the withdrawal rate for students in the program is 7% compared to 29% for other students. Anecdotal comments from focus groups indicate that the program's effect extends beyond the classroom, as students report that participation builds self-confidence, teaches them to work more cooperatively, improves problem-solving skills, and promotes the formation of friendships and a sense of community." (ASCCC, 2009)

At Los Angeles City College, the "Pi Shop" course, established in 1998, uses one-on-one peer tutoring and mentoring for at-risk students to improve student enrollment, success rates, and retention in math courses. "The Pi Shop course provides students with a user-friendly, non-threatening environment in which they can get help with basic skills, address their math anxiety, hone their test-taking strategies, and engage in informal counseling and advising for their majors. Overall, Pi Shop students enjoy a much higher rate of success in their other math courses than do their non-Pi Shop peers. Participating students in both preparatory and advanced math classes have a success rate that exceeds that of their non-participating peers by nearly 30%. By offering an open, attractive, learning-centered environment for students of all backgrounds and skill levels, this program has humanized mathematics instruction and contributed to City College's mathematics department being one of the most actively engaged in student learning on campus." (ASCCC, 2009)

Extended Opportunity Programs and Services (EOPS): EOPS is a state-funded program designed to assist low income "at risk" students at the community college by providing counseling and support services to enhance retention, graduation, transfer and employment. EOPS offers educational planning; academic, career and personal counseling; and academic progress monitoring. In addition to peer advising and mentoring, students also receive priority registration, extensive orientation to college, and financial aid advising and workshops. Both California State University and University of California offer

transfer application fee waivers and transfer workshops. Often developmental mathematics and/or English instructional and counseling faculty teach together in learning communities targeting EOPS students to better integrate the educational experiences for the students.

The Grossmont College EOPS Student Success Plan "incorporates student success strategies for retention of students who are identified as one of the most at-risk groups: those who are both academically and educationally disadvantaged; and on academic probation. Through assessment and counseling, an individual Student Success Plan is developed and co-signed by both the student and the counselor. Follow up and intervention is provided throughout the semester with dramatic results. The percentage of students who have succeeded has been impressive. Their rate of retention is 67% as opposed to the usual 16% for this population. Students with a history of non-persistence continue to take classes and have real hopes of transferring to a four-year institution." (ASCCC, 2009)

Puente Program: Information from the official Puente website states that "The Puente Project is an academic preparation program whose mission is to increase the number of educationally disadvantaged students who enroll in four-year colleges and universities, earn college degrees, and return to the community as mentors and leaders of future generations. Staff development and training programs prepare community college instructors and counselors with effective methodologies for improving the academic achievement of underserved students, working collaboratively across academic disciplines, and increasing community-based support for students and community college staff. Puente provides three areas of service to students: teaching, counseling, and mentoring. Instructional and student support services faculty work together, often in each other's classrooms, to mentor the student into becoming a successful college student, graduate and future leader." (Puente, 2008, p 2)

Puente was founded in 1981 at Chabot College. The program's purpose was to improve the number of underrepresented disadvantaged students seeking to transfer to four-year colleges and universities. "Chabot's Puente Program reports higher than average course completion and success in basic skills and college level English; higher term-to-term persistence; higher graduation rates; higher transfer rates; increased course completion and success in developmental and college-level English; increased persistence, graduation, and transfer" (Center for Student Success, 2008, p. 3). Puente represents an extremely successful learning community involving faculty, counselors and tutors in a culturally appropriate environment. This program addresses the needs of our fasting growing student population. Barbara Jaffe of El Camino College provided this snapshot of the typical Puente student profile that illustrates their basic skills pre-Puente status

Puente Student Profile

- ✓ Latino students have the highest dropout rate in community colleges (94.1% of Latinos in California won't complete their AA Degree)
- ✓ They generally come from families with no college experience
- ✓ Financially they are from low-income areas

- ✓ Students often have a record of low performance for participation in college-track classes
- ✓ Most test at pre-transfer level English course skill level
- ✓ These students are fluent English speakers
- ✓ Many are second or third generation Mexican/Americans
- ✓ These student generally avoid counselors and English classes
- ✓ They are inexperienced writers
- ✓ Their grade point averages are quite low
- ✓ The students have unclear career goals
- ✓ Few are likely to transfer to four-year colleges and universities

This profile makes it perfectly clear that a simple curricular change is not adequate. Helping these students succeed requires a holistic approach. This is the philosophy and structure of Puente which results in extraordinary outcomes in one of our most fragile student populations.

Puente Outcomes
- Only 7% of the first-time freshmen who enter California community colleges with the goal of transferring actually do so.

- Among Puente students who have transferred to the UC, 95.6% graduate within four years, as compared with 73% for all transfer students and 62% for Chicano transfer students.

- Nearly twice as many Puente community college students transfer to four-year colleges or universities as do underrepresented students statewide.

- Term-to-term retention rate of Puente students is 92%, compared with 60% for community college students statewide.

- Among students who have transferred, 91% believe that the Puente class prepared them for college-level reading and writing and 83% believe their Puente counselor did a good job preparing them for transfer.

According to the annual Puente Project 2003 internal evaluation findings report:

- Nearly twice as many Puente community college students transfer to four-year colleges or universities as do underrepresented students statewide; the rate is also significantly higher than that of the general community college student population.

- The term-to-term retention rate of Puente community college students is 92%, compared with 60% for community college students statewide.

- From 1996 to 2000, an average of 80% of Puente community college students completed the pre transfer-level English course, compared to 51% of non-Puente students. During the same period, 68% of the Puente students completed the transfer-level class, compared with 53% of non-Puente students.

(Puente, 2008, p. 5)

Supplemental Instruction: Supplemental Instruction (SI) is "a student academic assistance program that increases academic performance and retention through its use of collaborative learning strategies. The SI program targets traditionally difficulty academic courses--those that typically have 30% or higher rate of D or F final course grades and/or withdrawals--and provides regularly scheduled, out-of-class, peer-facilitated sessions that offer students an opportunity to discuss and process course information." (Martin et. al, 1977)

The Supplemental Instruction/Mentor Academy (SI/MA) program at Los Angeles City College was "established in 2000 to assist students in high-risk general education courses. The program increases students' retention, persistence, and social involvements by establishing study groups, encouraging students to become active learners, and increasing collaboration among students. These goals are achieved with the aid of volunteer mentors, chosen from a pool of qualified full-time students who have demonstrated a mastery of the course as well as strong communication and management skills. The mentors' responsibilities include the organization of study groups, the preparation of study guides, and providing motivational support to students, as well as providing feedback to instructors. The program offers 30 sections in 12 disciplines, and serves about 1,000 students per semester. The responses of students surveyed about the effectiveness of the SI/MA program are overwhelmingly positive, and objective data supports the students' sentiments – the success and retention rates of SI/MA participants are 61% and 81%, respectively, compared to just 44% and 63% for non-participating students." (ASCCC, 2009)

The Gateway to Success at Santa Barbara City College is a "highly collaborative program to improve student success in the large transfer classes by providing high-quality supplementary instruction to selected students who, according to early assessment, may be at risk. Because they serve as gateways to fulfilling degree, certificate and transfer requirements, success in these core courses is critical for students in achieving their academic goals. The program provides a well-organized structure in which students interact with tutors who, in consultation with the instructor, provide students with highly focused supplemental tutoring. One instructor comments, 'I am certain there are several students in each class who have been able to complete the class or have received a passing grade because of the assistance and guidance they received from the tutors.' Program results clearly show that the success rates of Gateway students have substantially surpassed the average college success rate in every course every semester." (ASCCC, 2009)

The Transfer Achievement Program (TAP) was created at Fullerton College "through a 1995 Title 3 Grant for Hispanic Serving Institutions, aiming to assist students who enter the college at the developmental level. Students are eligible to participate in the program based on their placement in math and English classes. Currently, TAP offers 16 courses in various physical and social sciences in addition to English and math. Participating students enroll in special sections that include involvement in additional supplemental instruction sections. Typically these are hour-long sessions in which student volunteers or "facilitators" offer support in course-related material under the supervision of the course instructor. The student facilitators, many of whom are previous graduates of the TAP program, monitor the progress of participating students and provide feedback to instructors. Regular evaluation of students' progress enables timely response in cases where students are apparently failing in their coursework. In addition to supplementary coursework, TAP offers a Family Event and student orientation to motivate the students and their support network for the

tasks ahead. Statistics show that, for courses in which TAP is offered, the success rates for TAP participants is 78%, compared to just 58% for students who do not participate in this program." (ASCCC, 2009)

 Service Learning: Service learning is a form of experiential education that partners academic instruction with community service. Students learn through participation in thoughtfully organized service activities that are course relevant and meet actual community needs. Community placements allow students to apply course theory in real world settings while making valuable community contributions. As part of the service learning process, students reflect on service activities. Students are encouraged to use critical thinking skills as they summarize and evaluate what they have learned through their service learning experience. Through the process students: 1) discover connections between what has been learned in the classroom and needs found in their community; 2) examine possible career choices; 3) acquire work experience; 4) increase their chances for transfer to a four-year college; and 5) apply what they've learned in the classroom to everyday situations, resolving real problems. Service Learning has a profound impact on student learning and identity. According to Astin, et. al., (2000, p. ii), "Service participation shows significant positive effects on all 11 outcome measures: academic performance (GPA, writing skills, critical thinking skills), values (commitment to activism and to promoting racial understanding), self-efficacy, leadership (leadership activities, self-rated leadership ability, interpersonal skills), choice of a service career, and plans to participate in service after college."

Orange Coast College (OCC) and Newport-Mesa Unified School District have collaborated extensively to develop a series of service learning projects that ensure that the college students learn the subject material while providing meaningful community service.

At Family Science Nights, OCC students design and construct projects which illustrate what they are studying in their class and then present these projects at local elementary schools at Family Science Nights. All of the projects are aligned with the California Science Standards to help children learn the basics of science. To date, they have put on 22 Family Science Nights. About 250 people attend each event. In addition, each year the Service Learning Office hosts a Community Science Night for local elementary schools. Over 3,000 children and family members attend the event and 70 projects throughout the science, technology, and allied health labs were displayed. Over 300 service learning students, 34 faculty members, 4 division deans, and 6 staff members participated in the event. At its Teaching Scholars Partnership, 8-10 OCC students are placed in the school district's classrooms to help teach science topics required by the California Science Standards. In addition, the students are required to enroll in a directed studies class in Education and attend weekly seminars with education professors to learn the tools to be effective tutors in K-12 classrooms. And finally, for its TEACh3 Program, Education Majors enrolled in Education 200 are required to tutor for 40 hours in a k-12 school. The college places about 25 students in the district's k-6 classrooms each semester. As a component to a communications course, 12 OCC students serve as mentors to at-risk high school sophomores in 3 local high schools, providing leadership and guidance to the high school students through discussion groups and one-on-one conversations. Students from college leadership classes help host a Senior Day at the college, where seniors from high schools in the district are invited to come to the college and learn about opportunities at Orange Coast College. Each year, over 5,000 seniors attend the event. Each spring, the Dance Department at OCC develops a program emphasizing Hispanic culture, the Fiesta Latina. This program is presented to Newport-Mesa Unified School District's K-12 schools and is performed by 20-30 OCC dance students. The

collaboration between OCC and the Newport-Mesa Unified School District has greatly benefited both students and the community and has lessened the divide between K-12 schools and the community college.

Summer Bridge: Summer Bridge bridges the gap between high school and college; it is a program allowing high students, usually juniors and seniors, to get a head start on their college degree. Through Summer Bridge, high schools take community college courses during the summer between high school and college, and receive extensive support while doing it. The program often includes enriching activities, both academic and social, to help give students an idea of what to expect in college. Activities may include guest speakers, field trips, campus tours to acquaint students with campus life, resources, and support personnel. Academic workshops generally include a variety of topics, such as, How to Talk in Class; Discussion Techniques and Strategies; Critical Thinking: Complex, Sophisticated Ideas; Essay Overview; Writing about Literature and Non-Fiction. Socialization workshops include topics like College Etiquette; The Culture of Academia; How to Co-Mingle with College Students; Building Good Study Habits; Advocating for Oneself; and Negotiating a College Bureaucracy.

Santa Barbara City College's (SBCC) Running Start program "began in 2001 when it recruited high-risk local high school students to participate in a summer bridge program, which participants in the program were introduced to a college curriculum and through increased personalized attention and came to know available student resources that enabled them to proceed with their education. In this full-time, six-week program, these high-risk high school graduates enroll in a College Success course, along with one other regular college course and peer tutorial meetings four times per week. Running Start also offers its participants the critical incentives of a weekly stipend, book grants, and transportation and meal vouchers, thereby eradicating the most commonly cited obstacles to attending summer school. In the past five years, 281 disadvantaged students have taken part in Running Start, 94.3% of whom were ethnically under-represented at SBCC; of these, 257 or 91.5% have enrolled in a subsequent fall semester of college, demonstrating an extraordinary program retention rate. Statistics show that a significant proportion of these students have continued to enroll in ensuing semesters as well, and that they persistently maintain an average GPA over 2.0. Also noteworthy is, according to the data already available, 22 of the 134 participants of Running Start's first three years have already earned degrees and/or certificates; and, although transfer statistics cannot yet be cited, two former participants are known to have earned bachelor's degrees in 2004. Such numbers indicate the program's commendable effectiveness in extending the benefits of an advanced education to individuals who might otherwise never aspire to more than a high school diploma" (ASCCC, 2009)

Faculty Directed Collaboration Activities
Engaging Content and Support Services Faculty in each other's Classrooms: Inviting faculty members from the Basic skills content areas to speak in Guidance courses, to introduce themselves and discuss their performance expectations and to provide some background on the subject area gives students a more realistic idea of what is ahead in their academic journeys. Students gain insight into the instructors' pedagogical styles and can engage with instructors in non-threatening environments. This practice occurs regularly in Puente programs across the state. Cerritos College has implemented this practice in some of its basic skills learning communities, as well. While there is no empirical data measuring the effects of this practice, comments from students indicate they feel a greater sense of caring and

engagement with faculty when they see them in each other's classes. The students with basic skills needs report a stronger relationship with faculty they see often.

Learning Assistance Programs: Shoring Up the Rebar

In addition to the strategies and practices listed on the previous pages, research shows that another key element to improving the success of students with basic skills needs is learning assistance programs. *Basic Skills as a Foundation for Student Success in the Community Colleges* cite a study by Noel, Levitz and Kaufman that found that "remediation services alone were unable to ensure student success" (Center for Student Success, 2007, p. 62). In other words, while classroom innovations, learning communities and intrusive counseling have been shown to be effective practices for students with basic skills needs, another crucial component to their success is some sort of learning center, tutoring or supplemental instruction. Think of those services as rebar, reinforcing the concrete and wiring used in students' academic construction. The rebar must not only reinforce what the student is specifically learning, but also the awareness of how he or she is learning. "Effective assistance requires that the services are focused on the students' specific learning needs as well as the students' metacognitive development (Center for Student Success, p. 63). For more details on the vital role that metacognition plays in learning, see Chapter 5 of this handbook. This chapter is designed to highlight innovative learning assistance programs across the state and to look at how they are organized to best serve the students on those individual campuses.


But First, A Little Quiz on Learning Assistance Programs
How much do you know about learning assistance centers and the role they play in student success? Answer True or False to the following statements

1. Most students with basic skills needs take advantage of tutoring and learning assistance.
   True or False

2. Most learning centers are organized one way, based upon a universally effective model.
   True or False

3. The majority of the work done is most learning assistance centers revolves around tutoring.
   True or False

4. Tutoring is the most effective form of assistance because students can get the answers they need from the tutors.
   True or False

5. Some learning assistance centers offer critical skills courses addressing diagnostic basic skills needs rather than obligating the students to take an entire semester length course.
   True or False

Answers: Each of these questions are elaborated upon in this portion of the chapter, so read on.

1. False, students often avoid learning assistance centers

2. False, learning assistance centers are organized in a variety of models centralized, decentralized, around courses or directed learning activities, outcomes-based and non-outcomes-based.

3. False, learning assistance centers are not synonymous with tutoring centers.

4. False, tutoring is not as useful as collaborative learning groups which occur in many of the learning assistance centers

5. True, when diagnostic assessments are used to uncover missing skills, students can address skills versus retaking entire courses.
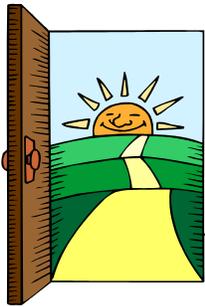
Getting Students in the Door

Sometimes developmental students are reluctant to seek tutoring or other learning assistance help because of perceived stigmas or stereotypes. Students sometimes think that their peers will see them as "dumb" or "nerdy" if they seek tutoring help. One way to combat these stigmas is to let students know how much learning assistance will help them succeed. While there is as yet little state or national research evidence that points to large increases in success rates among developmental students who receive tutoring help (Center for Student Success, 2007) there is college-specific data to indicate that much success does occur.

At Sierra College, an average of data from 2002-2007 indicate that developmental students who receive tutoring or other learning assistance help have an average success rate of 65%, while their counterparts who do not receive help have an average success rate of 58% (Sierra College Research and Resource Development Office, 2008). At Chaffey College, "Differences in success rates range from ten to almost thirty percent among students who utilize the Center services." (Hope, 2008) These are substantial increases, ones that lift students beyond the statewide average for success in basic skills classes. What is the rate on your campus? How many students know this figure? What about your faculty and administrators?

Learning Assistance Organizational Strategies: Centralized Structures

While raising success rates of developmental students is the ultimate goal, learning centers strive to meet this goal in a variety of ways. Most centers are organized with either a centralized or a decentralized structure. Antelope Valley College has chosen a centralized academic support structure, with all their services housed in one location. Dorothy Williams, Academic Skills Learning Specialist, describes the multiplicity of important features her center offers, all in a centralized location.

Antelope Valley College (AVC) Learning Center

According to the Council for the Advancement of Standards in Higher Education, "The mission of the Learning Center is to support classroom instruction by providing assistance to students with a variety of services aimed to promote their success in college." At Antelope Valley College, these services include

- Instructor-led workshops and one-on-one sessions
- Individual and small group tutoring by trained peers
- Supplemental instruction
- Access to computers and online programs.

All of these services are designed to reinforce course content and to emphasize good study habits. Learning Center instructors and staff members are committed to providing a friendly, nurturing, and stimulating environment that encourages our diverse population of students to become independent, lifelong learners.

AVC's Learning Center is a part of the Instructional Resources and Extended Services Division (along with the library and instructional multimedia center) under Academic Affairs. The program is comprehensive and is comprised of seven program and service areas that provide a wide variety of individual and group instructional activities for students—Academic Skills Center (Early Alert and other programs), ESL Study Center, General Tutoring Center, Math Center, Textbook Reading and Study Skills Center, Supplemental Instruction Center, and Writing Center. Other service areas in the Learning Center are Computer/Media Check-Out and DSS High-Tech Center; the latter is not part of the Instructional Resources and Extended Services Division but serves students in tandem with Learning Center programs. Student referrals to Learning Center inter-related programs are central to daily operations.

All Learning Center services are in one building devoted primarily to learning assistance and located at the heart of the campus. The building was designed to provide both "high tech" and "high touch" support to students. The floor plan is open and allows for a flow between and among services. Assistive technology, like the Kirsweil 3000 and CCTV (closed caption television), is available for students with disabilities and other students who could benefit from the technology.

One unique aspect of the AVC Learning Center is its staffing: in addition to four Tutorial Services Specialists (for Math, Writing, Reading, and General Tutoring and Supplemental Instruction), a computer technician, and a clerical, there are three full time and six adjunct faculty learning specialists. The Tutorial Specialist is a paraprofessional position that requires expertise in tutorial theory and training as well as in the skill or content area. All of the AVC Tutorial Specialists have bachelors degrees and two have masters degrees. Tutorial Specialists are primarily responsible for the recruiting, hiring, training and supervising of the peer tutors. They also conduct workshops, assist in creating learning improvement plans, create handouts and other instructional materials, monitor data collection, and analyze data results. The Tutorial Specialst and the Learning Specialist work as a team in each area to develop and supervise the tutorial programs and services.

A Learning Specialist is a faculty member who uses formal and informal diagnostic tools to evaluate the way a student learns best. For job descriptions, see the Learning Support Systems in Higher Education (LSCHE) website: http://www.pvc.maricopa.edu/~lsche/. The primary function of the

Learning Specialist is to work with students individually to improve their ability to learn; however, each of the current Learning Specialists has additional responsibilities. They are the faculty responsible for LAC 900, Supervised Tutoring, a positive attendance course through which AVC students receive tutoring. They act as consultants to faculty and counselors about student needs and also about instructional design and learning theory. They serve on the Student Success and Equity Committee and the Basic Skills Committee and engage in many other student success projects like Title V, Summer Bridge, etc. The Learning Specialists are also responsible for LAC 901, Supervised Learning Assistance, working with students referred by the Early Alert system and students reaching the basic skills coursework limit. They also teach workshops on a variety of topics. The full-time Learning Specialists teach the tutor training courses, which meet the College Reading and Learning Association's international certification standards at all three levels – regular, advanced- and master- as well as other Learning Center courses like Writing Anxiety or Math Study Strategies.

The AVC Learning Center relies upon data to evaluate and improve its programs and services. In addition to student evaluations, the AVC Learning Center collects both student success and student learning outcome (SLO) measures. Student success measures include retention, persistence, and goal attainment (usually successfully passing the course tutored). Student learning outcomes are defined by the Accrediting Commission of Community and Junior Colleges as: "Knowledge, skills, abilities, and attitudes that a student has attained at the end (or as a result) of his or her engagement in a particular set of collegiate experiences." Therefore, SLOs for learning assistance programs must be linked directly to the mission of the program, be measurable and specific, focus on the essential goals of the program; be clear and understandable; be realistic and concrete. The AVC Learning Center based its SLOs upon the expectation that students using the Center will increase their ability to study independently and improve their metacognitive abilities. Aspects of metacognition were defined by Rich Sheets, current president of College Reading and Learning Association (CRLA), as motivation, acquisition, retention, and performance. The Tutor reports for each tutorial session evaluate tutees metacognitive behaviors as well as evidence of tutee independency on a Likert scale using a rubric. The Tutee report is a learning log which focuses on study skills improvement. Learning Center SLOs are evaluated using pre/post measures, assessment instruments, tutor reports with space for observations and evaluation, SI session evaluations, and faculty observation. A learning styles inventory is given to each tutee when the tutee applies for the program.

Other outcomes collected are success rates in courses, retention rates in courses and in the institution, persistence rates, comparison of SI (Supplemental Instruction) and non SI students, and student satisfaction surveys.

Study Strategies

Some centralized centers, such as City College of San Francisco's Learning Assistance Center, also offer study strategies courses. Nadine Rosenthal, Chair of the Learning Assistance Department, shared the following information about a study strategies class offered through the Learning Assistance Center, which relies heavily on SLOs and assessments for monitoring and adjusting the course to be most effective for student success. Nadine, along with colleagues in her department, is working on a study to measure the effectiveness of specific SLOs and assessments for this course in order to make it specifically meet the needs of students who take it. After all the data is recorded and analyzed, the course will be adjusted to more effectively help increase student

success. So far, however, Nadine has collected only one semester of data (Spring 2007), but the study of SLOs and assessments used in this course will continue during subsequent semesters. Specific details regarding the course, SLOs, and assessments follow below:

LERN 50 – College Success
The Learning Assistance Department's LERN 50 – College Success is a comprehensive course that integrates personal growth and values, academic study strategies, and critical and creative thinking proficiency. This survey course focuses on the following topics: life management, learning styles, personal and educational values, instructor-student relations, maintaining health, memory and concentration, lecture note taking, textbook studying, subject-specific studying, test taking, using the library, critical analysis, problem solving, and creative thinking, Emphasis is on the attainment of life-long success in academic, professional and personal development.

During Fall 2006, the College Success faculty engaged in an extensive dialog to develop SLOs and teaching "Best Practices" for the course. As a result, the LERN 50 course was redesigned with SLOs in mind and a SLOs rubric was developed (appears on the following pages). This included redefining SLOs, content, and assessment activities for the course.

In addition, during Spring 2007, a College Success Survey was developed and administered to students who completed LERN 50 with an A, B, or C grade (Fall 2006), enrolled in a subsequent term, and had an email in Banner (appears below). The purpose of the survey was to assess the students' application of SLOs in current classes. The survey also assessed the overall usefulness of SLOs for the course. The data from this survey will be used to redesign the SLOs for LERN 50. This survey will be administered during future spring semesters as well.

Thirty-nine of 192 students who met the above criteria responded to the College Success Survey. Samplings of students' qualitative responses follow:

- "I am applying the critical thinking skills, muscle reading, and test taking strategies in my classes. I also use the library for my researches, and I'm going to start using tutoring."
- "I am using test taking strategies and techniques to reduce test taking anxiety pretty much all the time in school..."
- "I use SQ3R while reading the accounting textbook."
- "I am using mostly memory strategies, flash cards, and a time planner…."
- "Participation in class, tutorial services, study cards, and more contact with teachers and students."

Conclusions: Spring 2007 data will be combined with Spring 2008 data, and then will be tabulated onto a rubric. At that point we will have enough data to analyze results and determine the impact on the LERN 50 College Success course.

We are also beginning to understand that SLOs for LERN 50 are being applied to other courses. We are starting to understand which SLOs students apply more/less frequently. These data will assist in the development of course curriculum for College Success and its faculty.

City College of San Francisco
Learning Assistance Department
LERN 50 / IDST 50 – College Success
Student Learning Outcomes Rubric with Assessment

Mission Statement: Create positive learning experiences that support student learning

LEARNING OUTCOMES	CONTENT	CLASSROOM ASSESSMENT	ANALYSIS OF ONLINE ASSESSMENT
Construct and analyze personal management charts of time and energy.	Life Management 1. Setting goals and priorities, making decisions 2. Time and energy management 3. Motivation and procrastination 4. Taking responsibility and overcoming fear 5. Self-esteem and self-awareness 6. Application of management skills to current classes	Construct personal time and energy management studies. Develop to-do lists and prioritization chart. Construct "Procrastination Logs" to discover personal patterns. Analyze personal experiences: objective and subjective descriptions.	
Evaluate learning styles and apply them to life-long learning.	Learning Styles 1. Active and passive learning 2. Brain dominance: left and right brain learning 3. Learning styles 4. Self-directed and collaborative learning 5. Visual, auditory, kinesthetic, and tactile learning modes 6. Application of learning styles theory to current classes	Construct a chart differentiating between left and right brain dominance. Identify and develop of study and learning for all learning styles. Identify and create less comfortable learning strategies. Administer modality preference inventory, multiple intelligence assessments and personality assessments.	

LEARNING OUTCOMES	CONTENT	CLASSROOM ASSESSMENT	ANALYSIS OF ONLINE ASSESSMENT
Examine personal and educational values and compare those values to those of diverse cultures.	Personal and Educational Values 1. Personal values, identity, and cultural diversity 2. Taking responsibility for educational goals 3. Educational and intellectual values 4. Life transitions	Draw a comparison chart contrasting personal values to those of diverse cultures.	
Assess wellness concepts, including stress, diet, sleep and exercise and develop a personal health assessment and action plan.	Maintaining Health 1. Healthy, balanced lifestyle and the mind / body interplay 2. Managing stress and relaxation techniques 3. Dietary, sleep, and exercise requirements 4. Drug and alcohol usage	Develop a plan to reduce stress.	
Apply lecture note taking technique to lectures from the current semester.	Strengthening Memory and Concentration 1. Principles of learning and forgetting 2. Short and long term memory 3. Recognition and recall techniques 4. Concentration techniques and self-discipline 5. Mnemonic devices 6. Application of memory, concentration to current classes 7. Lecture Note taking 8. Active listening 9. 5R and other lecture note taking technique 10. Signal words and summarizing techniques 11. Class participation techniques	▪ Present a memory aide to the class. ▪ Construct effective mnemonic devices.	

	12. Application of lecture note taking to current classes		
LEARNING OUTCOMES	CONTENT	CLASSROOM ASSESSMENT	ANALYSIS OF ONLINE ASSESSMENT
Assess textbook studying techniques and employ them to current textbooks.	Textbook Study Systems 1. Survey of textbooks and chapters 2. SQ5R, SOAR and other textbook study techniques 3. Textbook reading techniques: topic sentences, main ideas, summarizing 4. Textbook note taking techniques: lists, cards, mapping, outlining, summarizing 5. Textbook marking 6. Application of textbook study systems to current classes	▪ Develop a note taking system for a textbook in current use and apply the system. ▪ Utilize the Cornell method of note taking in one class.	
Compare and contrast study techniques for math, science, and liberal arts courses.	Subject-Specific Study Techniques Math Science Liberal arts Application of subject-specific study techniques to current classes	▪ Outline study techniques for math, science, and liberal arts assignments. ▪ Use documentation to annotate sample writing.	
Formulate test taking strategies for both objective and essay exams and prepare practice exams and practice exam questions.	Test taking Text-taking anxiety: visualization and relaxation techniques Test preparation and test-taking strategies Objective exams Essay exams	▪ Use documentation to annotate sample writing. ▪ Combine text, notes, and previous homework assignments. ▪ Write sample test questions for an	

	Application of test taking to current classes	upcoming exam. ▪ Develop and implement study groups to prepare for tests. ▪	
LEARNING OUTCOMES	CONTENT	CLASSROOM ASSESSMENT	ANALYSIS OF ONLINE ASSESSMENT
Employ the use of computers to library research.	Using the Library 1. Research materials and techniques 2. Use of computers for library research 3. The Library's two hour orientation is highly recommended 4. Documentation techniques 5. Plagiarism 6. Application of library usage to current classes	▪ Complete library self-guided tour. ▪ Use student ID card to access library catalogs and indexes off campus.	▪

Examine critical analysis techniques and demonstrate those techniques using problem solving and decision making models.	Critical Analysis and Problem Solving
	1. Analytical, cognitive, vertical thinking style
	2. Problem solving and decision making strategies
	3. Data, information, bias, facts, opinion,
	4. Assumptions, evidence, arguments, judgments,
	   evaluation, explanation
	5. Application of critical analysis and problem skills
	   to academic classes
		▪ Solve problems using analytical thinking and problem-solving techniques.
		▪ Utilize systematic problem solving model to solve case studies and then in one's own academic, personal, and profession lives.
		▪ Understand and utilize effective debating skills.
			▪

Decentralized Structures

Some colleges believe a decentralized model of learning support is most effective for their students. Laura Hope, Student Success Center Coordinator, describes the process Chaffey College went through in decentralizing their learning support and instead creating several Student Success Centers. Laura further describes the large gain in student success achieved at Chaffey College through the implementation and heavy use of these Centers.

Chaffey College's Success Center Model

In 1999, Chaffey College embarked on an ambitious and wide-reaching endeavor to improve the success and performance of students enrolled in basic skills courses. Increasingly, students enter the community college under-prepared for college level study, and yet they aspire for advanced degrees and technical certificates. The Basic Skills Transformation sought to help students bridge the gap between their entering skills and their ultimate goals, emphasizing the moral imperative to assist students find the path to their dreams. The Chaffey College Success Centers have been the key component of that assistance.

The College presently supports seven Success Centers serving all students: the Math Success Center, Writing Success Center, Language Success Center, Reading/Multidisciplinary Success Center as well as Multidisciplinary Success Centers at campus locations in Chino, Fontana, and the California Institution for Women in Chino.

The Success Centers feature full-time instructional leadership and a vast and diverse staff of well-trained educational assistants. All of the Success Centers provide students with learning opportunities. Chaffey College has taken a unique approach to academic support, modifying the use of traditional "lab" or tutoring settings and developing a new pedagogy for its Success Centers. The Centers support all learners in every subject at the college and employ a shift from skills to strategies, focusing on the process of learning rather than on repetition and practice. In this model, the Center resembles the classroom environment and expectations, and students who participate are significantly more likely to succeed in their courses.

Some students utilize the Center voluntarily; others from specific disciplines (English, reading, languages, and ESL) have course requirements for supplemental learning, as defined by section 58050 of Title 5. Although the Centers still provide traditional practice and tutoring opportunities, they focus more heavily on experiences that create an extension of the classroom: study groups, workshops, and directed learning activities. All of these experiences are carefully designed by classroom instructors and support specific learning outcomes. In addition, the staff must be carefully trained and supported in order to implement the instructional design of the activities. Finally, these activities must also address the scope of students' needs. The Centers focus on multiple deliveries and a variety of access points.

Directed Learning Activities

Directed Learning Activities can be used with a variety of discipline-specific content; however, at Chaffey, they are especially effective in the Mathematics Success Center. When using a Directed Learning Activity (DLA), an instructor decides on a mathematical activity tied to the course curriculum that may

- o review a concept or skill before it is needed in class
- o enhance a student learning skill
- o build toward proficiency in a specific Student Learning Outcome (SLO)

The instructor constructs the DLA according to well-developed instructional design criteria, provides the Center with the written material for the DLA, and then the Center, in conjunction with the instructor, trains the tutors who will help the student assess their work on the DLA in the Center.

The use of DLAs increases student use of the Mathematics Success Center beyond the DLAs, provides funding for the Center, integrates supplemental instruction closely with courses, and can provide a method for increasing student performance on the measurable course SLOs.

It is the combination of DLAs with many other activities that help the Centers to be so effective. In fact, internal research tracking the success rates of students who participate with those who do not, as well as data tracking specific activity patterns, indicates overwhelmingly that participation promotes achievement. Differences in success rates range from 10 to almost 30% among students who utilize the Center services. In addition, the College has taken a systemic approach and made a commitment to serve all students who have a need. The Success Centers support approximately 10,000 students per term, and approximately 150,000 sessions of fifteen minutes or more. In this way, the intervention is also cost effective, generating both immediate and "downstream" revenue.

Tutor Training

At the present time, there is not a great deal of evidence that supports one learning assistance structure over another. However, there is solid evidence to support one aspect of learning assistance programs. Central to raising student success is tutor training. Hunter Boylan, Leonard Bliss, and Barbara Bonham report that

> "students participating in tutoring programs featuring a training component were more likely to have higher first-term GPAs at both 2-year and 4-year institutions. They were also more likely to have higher cumulative GPAs and to be retained at 4-year institutions. Tutoring programs featuring training components were associated with higher pass rates in developmental English courses at both 2-year and 4-year institutions."(Boylan, Bliss, & Bonham, 1997)

CRLA Certification

It's not just random training of tutors that achieves success either. The College Reading and Learning Association (CRLA) model is probably most widely used by learning centers. (Center for

Student Success, 2007, p. 63). CRLA publishes a Tutor Training Manual, which is available for purchase online. The manual details effective methods for tutor training and provides specific categories that trained tutors should know. More information about the training manual as well as general information about CRLA can be found at the following Web site: http://www.crla.net.

The College Reading and Learning Association (CRLA) also provides certification of a college's tutor training program. Certification of the program requires colleges to submit specific details of their tutor training practices and requires colleges to teach specific curriculum known to help students be more effective tutors. At the present time, over 500 colleges and universities have received CRLA certification. There are three levels of certification:

- Regular
- Advanced
- Master

Each level requires an additional ten hours of tutor training and 25 hours of tutoring experience. After meeting the requirements for an initial institutional certification for one year, CRLA offers a three-year renewal certification, which can then be followed by a five-year recertification.

Tutors who have gone through the CRLA certified tutor training programs provide tutorial assistance that emphasizes strategies and processes over simple content mastery. This training helps tutors understand the need for tutees to be responsible for their own learning and begin to self-develop their own learning skills. Such certified tutorial training programs also help learning assistance centers move toward greater collaboration with instructors.

Other Professional Organizations

ACTLA
One important California organization with which all learning assistance personnel and administrators should be aware is the Association of Colleges for Tutoring and Learning Assistance (ACTLA). ACTLA is dedicated to the improvement of diverse college and university tutoring and learning assistance services. An annual conference is held in various cities across California. For more information about ACTLA, please visit their Web site at http://www.actla.info.

National Tutoring Association
The National Tutoring Association also provides tutor training and program certification and is dedicated to fostering the advancement of professional and peer tutoring. You can visit their Web site at http://www.ntatutor.org.

Learning Support Centers in Higher Education

Learning Support Centers in Higher Education provides helpful information online, sponsors the Winter Institute for learning assistance professionals, and very importantly, provides a vehicle for learning support specialists and developmental educators to converse with and gain ideas from one

another via a helpful list serve. Called LRNASST-L, the list serve contains a membership of approximately 1,200 learning assistance and developmental education professionals across the nation. For more information about this list serve or Learning Support Centers in Higher Education in general, please access their Web site:
http://www.pvc.maricopa.edu/~lsche/resources/lrnasst.htm

It is our hope that through presenting various professional organizations supporting learning assistance, you will join your colleagues across California and across the nation in networking with one another, in expanding your knowledge by attending conferences specifically geared toward learning assistance and tutoring, and in edification through participating in conversations with other learning assistance professionals.

Conclusion
This chapter serves as an extension or amplification of some of the student service concepts discussed in Chapter 4 of this handbook. The learner identity must be developed across the college in instruction and student services and should form a bridge across the silos of various disciplines as well as between student services and instruction. From programs directed toward meeting student needs in specialized target populations, such as EOPS or Puente, to programs that help jumpstart students in the Summer Bridge or First Year Experience, we know that accountability and engagement are key success factors. Combine these strategies with open access for students to elect additional learning through Learning Assistance Centers and you have created a holistic approach to our diverse student populations' needs. The examples of different, yet exemplary, models for learning assistance should help you to engage in robust discussions about what your students need and how you can best meet those needs outside of the traditional class time. As noted in the structural examples given in this chapter, some centers provide a wide-range of support services in one easy-to-find location. Others provide convenience by decentralizing services into specific disciplines easy for students to access. Regardless of which model you choose to use on your campus, the important point to remember is that support services can help students to achieve greater retention, success, and metacognition. They strengthen the interior structures and supports for the building students are constructing to house their academic lives.

Appendix 1
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