B. Program Components

According to the literature, a number of specific programmatic components are characteristic of highly effective developmental education programs. These include:

B.1 Orientation, assessment, and placement are mandatory for all new students.

B.2 Regular program evaluations are conducted, results are disseminated widely, and data are used to improve practice.

B.3 Counseling support provided is substantial, accessible, and integrated with academic courses/programs.

B.4 Financial aid is disseminated to support developmental students. Mechanisms exist to ensure that developmental students are aware of such opportunities and are provided with assistance to apply for and acquire financial aid.

B.1 EFFECTIVE PRACTICE Orientation, assessment, and placement are mandatory for all new students.[4]

RESEARCH FINDINGS There is widespread agreement in the literature regarding the benefits of mandatory orientation, assessment, and placement for developmental students. Roueche and Roueche (1999) call for required student orientation, pointing out that universities are far better at this than community colleges; these authors further suggest that new students be matched with experienced student mentors. The use of orientation sessions to encourage entering students to address their recommended English and mathematics remediation at an early stage has also been recommended (Academic Senate, 2004). Research has demonstrated that those who participate in new student orientations are more likely to be retained in community college than those who do not receive orientation (Boylan and Saxon, 2002).

Despite the noted benefits of mandatory orientation, system data for the California Community Colleges indicates that most students may not be receiving it. Of the 2.4 million credit students

enrolled in 2002-03, 1.5 million were directed to orientation, while those remaining were exempted. Of those required to attend under matriculation guidelines, only 1 million actually did so. Of the 393,322 non-credit students enrolled in that year, less than 7 percent received directed orientation (Academic Senate, 2004).

Mandatory assessment and placement are repeatedly cited as best-practice recommendations for exemplary programs (Roueche and Roueche, 1999; Maxwell, 1997b; Casazza and Silverman, 1996; McCabe, 2000; Neuberger, 1999; Board of Governors, 2002; Boylan, 2002). A recent Board of Governors study compared the best practices identified in several of the most cited literature references, and found that mandatory assessment and placement was one of only two program features on which all four sources agreed (Board of Governors, 2002). Recommendations calling for these services have been supported by evidence of improved student outcomes. Roueche and Roueche report that "information from colleges that make assessment and placement mandatory, together with data reporting the performance of all students taking remedial work, suggests that remediation correlates with improved performance over the rest of the college experience" (1999, 47). They further note that colleges in states that require assessment and placement showed improved student retention and success levels when mandatory policies were enforced. In a study of nearly 6,000 developmental students from 160 two-year and four-year institutions, students who were subject to mandatory assessment were significantly more likely to pass developmental English or mathematics courses than those in programs where assessment was voluntary (Boylan, Bliss and Bonham, 1997).

> Students who were subject to mandatory assessment were significantly more likely to pass developmental English or mathematics courses.

Although often touted as a "best practice" criterion, mandatory course placement after initial assessment has been somewhat more controversial with respect to outcome data. While mandatory placement was found to be positively correlated to student retention in four-year colleges, a negative correlation was shown for two-year colleges (Boylan, Bliss, and Bonham, 1997). However, developmental course success rates were positively correlated with mandatory placement in both two- and four-year schools. These authors interpret this finding as positive support for both mandatory assessment and placement. They argue that, under voluntary placement, the weakest students may not take the remedial courses at all, and so are not counted. The stronger students filling remedial classes are more likely to be retained in this case, compared to a situation of mandatory placement in which the service population would include both high- and low-ability/ motivation students, and therefore more course drops. Essentially, voluntary placement tends to prevent a large number of the weakest students from being included in the program's service population. Since fewer than 10 percent of those needing remediation survive college without it (Cross, 1976), mandatory placement's loss to attrition is the lesser of the evils. Even though large numbers of students may be lost to attrition under mandatory placement, more would be expected to survive than if they had not received any remediation at all.
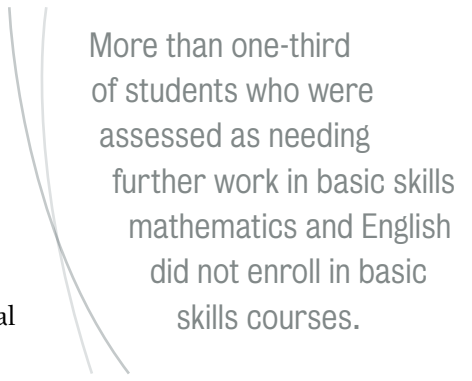
To combat the negative impact on student retention that may accompany mandatory course placement, McCabe (2000) reminds colleges of their responsibility to encourage students and to counteract lowering of student motivation that may come with placement into remedial coursework. He notes that many students express that they don't understand why they are required to enroll in remedial coursework, and adds that colleges need to help them see the value of such courses and programs.

In California, mandatory placement has also been the focus of legal challenges, such as the 1988 suit filed by the Mexican American Legal Defense and Educational Fund (MALDEF). The issue centered around the use of a single means of assessment for determining course placement, particularly with regard to lack of validation for students of specific groups that might be disadvantaged by the instrument used. These issues have largely been resolved with the implementation of required

multiple measures for assessment, requirements for local validation of cut scores, and more. Despite continuing confusion at community colleges regarding this issue, researchers and policy advocates (for example, Shulock and Moore, 2007) believe that there is currently no legal impediment to implementation of a mandatory placement policy at either the state or local level, so long as existing regulatory safeguards (such as the use of multiple measures) are in place.

The prevalence of mandatory assessment and placement practices is variably reported. In 1994, survey results indicated that 76 percent of the nation's developmental programs required incoming students to undergo assessment (Boylan, Bonham, and Bliss, 1994). A survey of 1,100 community colleges across the country reported 58 percent of institutions required mandatory assessment of all students, and that 75 percent of those requiring mandatory assessment further required mandatory placement (Shults, 2000). In California, it has been reported that more than one-third of students who were assessed as needing further work in basic skills mathematics and English did not enroll in basic skills courses (Academic Senate, 2004). If, as Cross suggests, only 10 percent of these students are likely to succeed in college without such remediation, a serious loss of individual and institutional potential exists in our state.

An additional factor regarding assessment and placement has recently been highlighted in the literature. Perin (2006) found that both colleges and states soften their own placement mandates by permitting subjective assessment procedures as an override. In one college, students could avoid required placement by signing a waiver; in another, lack of sufficient developmental sections resulted in the college allowing low-scoring students to take selected credit classes instead. These policy adaptations respond to threats of low enrollment and facilitate access to college curriculum for students eager to earn a degree. In addition, the very significant issues of validating assessment instruments and of documenting successful outcomes of prescribed remedial coursework make the landscape of mandatory assessment less black and white. It seems that colleges recognize the "value" of universal assessment, but actual practice often reflects the challenges of faithful implementation.

> More than one-third of students who were assessed as needing further work in basic skills mathematics and English did not enroll in basic skills courses.

The higher education system in Ohio affords an interesting opportunity to examine the effects of enforced placement and remediation. The colleges and universities in this state have considerable autonomy in establishing their individual assessment and placement policies, resulting in variation among the various schools' placement standards. A recent study examined students of similar academic preparation (based on high school courses/grades, ACT scores, etc.) who received remediation at a college with a stringent standard for placement compared to those who attended colleges in the system where the placement standard did not prescribe remediation. After controlling for a range of other variables in the student populations, this study estimated that over a five-year period, math and English remediation reduced the likelihood of stopping out by 10 percent and increased the likelihood of baccalaureate degree completion by nine percent (Long, 2005). Although the study population did not include students at the lowest levels who were placed into developmental levels at both colleges, these findings do demonstrate the value of developmental course-taking to improve outcomes for students who are assessed at slightly below college level.

The Academic Senate for California Community Colleges has engaged in a comprehensive analysis of assessment and placement in California community colleges. Supporting the importance of both assessment and placement for basic skills, the Academic Senate notes,

> Basic skills and ESL courses are the foundations for the other work a student will do at a community college. When a student does not enroll in these courses, a student jeopardizes his/her ability to successfully pursue college-level work. While the CSUs and UCs both impose deadlines for addressing remediation in language and mathematics skills, the California Community Colleges do not (Academic Senate, 2004, 13).

The Academic Senate report goes on to emphasize the importance of multiple measures for assessment; careful alignment of placement instruments with course content and objectives; and ongoing research and program evaluation in order to document whether remedies prescribed via recommended course placements are translating into successful student outcomes. Attention is also drawn to the lack of complete information related to assessment, placement, and measures of their effectiveness with respect to the system's 400,000 noncredit students (Academic Senate, 2004).

B.2 EFFECTIVE PRACTICE **Regular program evaluations are conducted, results are disseminated widely, and data are used to improve practice.**

RESEARCH FINDINGS Various studies provide evidence that comprehensive and systematic program evaluation is a hallmark of successful developmental education programs. In a nationwide benchmarking study of best practices in developmental education, all the programs that were eventually identified as exemplary reportedly engaged in ongoing and systemic evaluation activities (Boylan, 2000). Additionally, program evaluation has been shown to be positively correlated to both student retention and success in developmental courses at both two-year and four-year schools (Boylan, Bliss, and Bonham, 1997). Among the various programmatic elements examined for their relationships to desired student outcomes, systematic program evaluation was among those demonstrating the strongest relationship to student success.

> Program evaluation has been shown to be positively correlated to both student retention and success.

The recommendation for a strong evaluation component in successful developmental programs is called for by a number of authors (McCabe and Day, 1998; Neuberger, 1999; Perin, 2005; Grubb, 2001; Roueche and Roueche, 1999). Boylan (2000) defines a systemic evaluation as one that is done at regular intervals, is part of an overall plan, includes both formative and summative activities, uses a variety of measures, and is shared with a variety of audiences. McCabe and Day (1998) recommend an evaluation system focused on outcomes as well as on continuous improvement. Roueche and Roueche (1977, 107) concur that "the most successful developmental education programs are generally those that use a number of indices on which to evaluate their efforts."

Although most colleges engage in at least some evaluation activities related to their developmental programs, these are often fragmented and episodic. A systematic evaluation of developmental education activities should collect data at three levels:

- **Primary level:** descriptive data such as number of courses, hours of tutoring, and students served
- **Secondary level:** short-term outcomes such as course completion, grades in courses, and semester-to-semester retention
- **Tertiary level:** data on long-term outcomes such as grade point averages, long-term retention, and graduation rates

In terms of summative evaluation, Boylan, Bonham, White and George (2000) describe an "industry standard" for criteria to be used in evaluation of developmental education programs. These include:

- completion rates for developmental courses;
- grades in developmental courses;

- grades obtained in post-developmental education curriculum courses in the same subject area;
- retention rates for developmental students;
- grades in courses for which developmental students are tutored;
- student satisfaction with courses and services;
- faculty satisfaction with the skills of students who participate in developmental courses and services; and
- graduation rates for developmental students.

The New York College Learning Skills Association (Neuberger, 1999, 10) recommends that developmental programs should be measured by using more than one of the following:

- Course completion rates and grade distributions for developmental courses
- Course completion rates and grade distributions in related/subsequent courses
- Retention and persistence rates
- Graduation rates (at the very least, tracking students for three years for an Associate's degree)
- Rates of developmental students who maintain good academic standing and rates of those who experience probationary status
- Achievement rates as revealed by pre- and post-test gain, course and semester GPA, and cumulative GPA
- Rates of students who meet standards on competency-based assessments
- Rates of student goal attainment rather than graduation rates. Students should be asked to define their goals after their first semester and be asked if those goals were achieved during an exit interview
- Transfer rates (or transfer intentioned, as shown by transcript requests)
- Graduate school, military, and other continuing education
- Employment rates and length of employment, including employment in degree field or related field
- Labor statistics: percent not on welfare, percent above poverty line, etc.

Weissman et al. (1997) also emphasize the need for a well-designed evaluation component for developmental education programs, noting that program evaluation not only answers public concerns for accountability, but also determines if institutional policies and practices are succeeding, and which, if any, need to be changed. These authors strongly advise that evaluation of developmental course effectiveness is not enough and stress the need to examine all policies that the college has established to govern the developmental education program, including placement, the timing of remediation, and enrollment in college-level courses.

Although an emphasis on program outcomes is essential in any comprehensive evaluation of developmental programs, the collection of qualitative data is vital for formative evaluation and continuous program improvement. The National Association of Developmental Education (NADE) has developed *The NADE Self-Evaluation Guides: Models for Assessing Learning Assistance/ Developmental Education Programs* (Clark-Thayer, 1995) for use in formative program evaluation. These excellent guides suggest benchmarks that are aligned with research-based best practices in tutoring, adjunct instructional programs (e.g., Supplemental Instruction), developmental coursework programs, and other factors influencing the teaching/learning process. In addition, student learning outcomes at the course and program level can be developed and assessed, and the data collected used to inform program improvement.

Boylan (2002) strongly recommends the development of a comprehensive assessment plan for the developmental education program, created by program stakeholders and including a well-developed plan for dissemination of program results.

RESEARCH FINDINGS   According to the literature, a strong counseling component is characteristic of successful remedial programs (McCabe 2000; Maxwell, 1997b; McCusker, 1997; Kozeracki, 2002; Boylan, 2000). Key to this success is a program that integrates counseling with teaching and has a highly structured, easily accessible, and proactive format. Maxwell (1997a, 12) notes,

> In programs for underprepared disadvantaged students, it is essential that counseling be an integral part of the academic program and that counselors provide both formal and informal assistance to students and staff. Counseling arrangements which consist of counselors who sit in their offices and wait for clients to schedule do not work with at-risk students who need more intrusive intervention.

She goes on to suggest that these students need comprehensive services including advising and mentoring as well as academic skill development and help to "undo the lingering effects of negative attitudes, emotions, and fears they experienced in their earlier schooling" (Maxwell 1997b, 2). In this respect, counselors move from the role of crisis intervention to that of a more preventative, proactive function.

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The counseling function is also tied to intensive student monitoring and advising in effective developmental programs. Pre-registration counseling, including that provided via mandatory orientation, helps students understand the need to pursue suggested remediation routes and the value in doing so. In a study of credential-seeking students at 58 national community colleges who entered as freshman in 2002, 86 percent of students who were placed in and completed developmental courses in their first term persisted to the second term, while only 57 percent of those who were placed but elected not to enroll in developmental courses persisted to the second term (Lumina Foundation, 2006). In situations lacking mandatory course placement after initial assessment, counseling and advising play an even greater role in referring students to appropriate courses to promote their persistence and success.

The offering of counseling and advising services in connection with colleges' developmental education program has been correlated to improved first-term GPA and success in developmental courses (Boylan, Bliss and Bonham, 1997). In general, students in programs with a counseling/advising component are more likely to have higher pass rates than students from programs where a specific counseling/advising connection is lacking. This relationship is also highlighted by McCabe and Day (1998) who suggest that broad support services should include assessment, placement, orientation, tutoring, advising, counseling, peer support, early alert programs, study skills training, and support groups.

Counseling in and of itself is not sufficient to significantly impact student success. According to research (Boylan and Saxon, 2002), effective counseling for remedial students must be:

- integrated into the overall structure of the remedial program;
- based on the goals and objectives of the program;
- undertaken early in the semester;
- based on sound principles of student development theory; and
- carried out by counselors specifically trained to work with developmental students.

Maxwell (1997b) further suggests that true integration of counselors into the developmental program means including them in program planning, regular meetings with instructional staff,

and program evaluation activities. In support of the instructional function, counselors who work closely with faculty know and can communicate the content-area goals and expectations to students and help them navigate the developmental sequence appropriately. They also serve to support faculty by helping them understand and deal with student motivational and behavioral problems.

> Students in programs with a counseling/advising component are more likely to have higher pass rates.

B.4 EFFECTIVE PRACTICE **Financial aid is disseminated to support developmental students. Mechanisms exist to ensure that developmental students are aware of such opportunities and are provided with assistance to apply for and acquire financial aid.**

RESEARCH FINDINGS   Community colleges have long been labeled "democratizing" institutions because they provide high quality education at an affordable price; however, even an affordable system is beyond the reach of some students if the financial aid process is too complicated, or if students are unaware of its benefits. According to Haycock (2006), "college-going among students from low-income families grew from one-in-five to over one-half," and yet even with increases in financial aid packages, the aid fails to meet the costs (4). Pell and other grants are most often the first option for financial aid, while federal loan programs provide additional options. According to Haycock, "in 1975, the maximum Pell Grant covered approximately 84 percent of the cost of attending college or university. Today, it covers only 36 percent, effectively blocking access for thousands of aspiring college students from low-income families" (4).

In an Opening Doors study of financial aid approaches, Choitz and Widom (2003) assert that student grants had a greater impact on student retention and certificate completion if grants were more generous and offered incentives for participation and enrollment in more units. Further, they assert that some academic barriers may inhibit college success. For instance, many remedial courses are not eligible to demonstrate "satisfactory progress" requirements for the Pell Grant (17). Finally, Choitz and Widon indicate that students may be intimidated by the financial aid process or unaware of the process entirely. "At many colleges, financial aid staff have little time to meet with students individually, and written materials on how to apply for grants and loans tend not to be user friendly" (12).

In a study by MDRC and the Louisiana Opening Doors program, researchers Brock and Richburg-Hays (2006) document the impact of financial incentives on performance among low-income students. They found that students at Delgado Community College and Louisiana Technical College-West Jefferson participating in the study were more likely to demonstrate an explicit commitment to their academic goals and performance. Participating students were offered $1,000 performance-based scholarships for two semesters. The program also provided students with enhanced counseling services. The study found that participating students enrolled in approximately 8.9 percent more units than the control group students. Additionally, students passed "nearly half a course more" than their counterparts in the study. Among those attempting a course, almost 65 percent passed the course with a C or better. They also tended to withdraw less frequently (23).

Another recent study further confirms the positive outcomes associated with provision of financial aid packaged as scholarship incentives. (Glenn, 2006). In a large, randomized study of students at a Canadian university, 650 first-year students were divided into three experimental groups. One group was offered a suite of tutoring and support services, a second group was offered large merit scholarships in their sophomore year if they met certain grade-point averages, and a third group was offered both tutoring and scholarship incentives. At the end of the freshman year, persistence

A significant increase in GPA was also noted for those offered both tutoring and scholarship incentives.

and GPA of these groups was compared with those of a matched control group that was offered neither the services nor the financial incentives. Results showed that those offered tutoring alone were no more likely to persist than the control group, but those offered scholarship incentives were statistically more likely to return for their sophomore year, and those offered both tutoring and aid did better still. A significant increase in GPA was also noted for those offered both tutoring and scholarship incentives. Moreover, these students used the proffered academic support services much more than the control group or the group that was not offered financial assistance. The authors of the study also noted that the positive outcomes were concentrated almost exclusively among female students.

While more investigation is necessary to determine the long-term effects, these studies indicate a strong correlation between financial aid and student performance. In addition to providing more direct aid in the form of scholarships or grants to students, colleges can also contribute to student success by enhancing student opportunities to acquire available aid. Effective practices would include creating strong mechanisms for communication with developmental students, increasing student awareness of financial aid opportunities, and providing accessible assistance with aid application processes.