Strengthening Pre-collegiate Education in Community Colleges

PROJECT SUMMARY AND RECOMMENDATIONS

A Report from
The Carnegie Foundation for the Advancement of Teaching
STRENGTHENING PRE-COLLEGIATE EDUCATION IN COMMUNITY COLLEGES
2008

This document is intended for leaders and decision makers who work with community colleges at the classroom, college, and system level. Readers will find an overview of the purpose, activities, findings, and recommendations from a three-year project involving 11 California community colleges, undertaken as a partnership between The Carnegie Foundation for the Advancement of Teaching and The William and Flora Hewlett Foundation. Strengthening Pre-collegiate Education in Community Colleges (SPECC) has also generated a number of other reports, products, tools, and materials which can be accessed and downloaded without cost at www.carnegiefoundation.org/specc.

The William and Flora Hewlett Foundation

The William and Flora Hewlett Foundation has been making grants since 1966 to solve social and environmental problems at home and around the world. The Foundation concentrates its resources on activities in education, environment, global development, performing arts, and population. In addition, the Foundation has programs that make grants to advance the field of philanthropy, and to support disadvantaged communities in the San Francisco Bay Area. More information may be found at www.hewlett.org.

The Carnegie Foundation for the Advancement of Teaching

Founded by Andrew Carnegie in 1905 and chartered in 1906 by an act of Congress, The Carnegie Foundation for the Advancement of Teaching is an independent policy and research center with the primary mission "to do and perform all things necessary to encourage, uphold, and dignify the profession of the teacher." The improvement of teaching and learning is central to all of the Foundation's work. The Foundation is located in Stanford, California. More information may be found at www.carnegiefoundation.org.

Recommended Bibliographic Listing

The Carnegie Foundation for the Advancement of Teaching. "Strengthening Pre-collegiate Education in Community Colleges: Project Summary and Recommendations." A Report from Strengthening Pre-collegiate Education in Community Colleges (SPECC). Stanford, Calif.: The Carnegie Foundation for the Advancement of Teaching, 2008.

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"Basic skills" are not so basic, and they are definitely not simple—either to learn or to teach.

–Basic Skills for Complex Lives: Designs for Learning in the Community College
The Carnegie Foundation for the Advancement of Teaching, 2008

A Word About Language

Throughout SPECC's work, all of us involved—including and especially the authors of this report—have grappled with finding the right language to capture our focus on underprepared students. As readers will see, we have used several terms: pre-collegiate, developmental, remedial, and basic skills, recognizing that these are not synonymous and that, for better or worse, each brings its own history and values. The term "basic skills" has recently gained ground in California because of the ambitious state-wide Basic Skills Initiative now moving into a third phase of activity, and it is thus a term that connects SPECC's work to a larger set of activities from which we have learned and to which we hope to contribute.

Our intent throughout is to point to the importance of knowledge and capacities without which students cannot achieve higher levels of learning or thrive as workers and citizens in today's world. These include foundational skills in reading, writing, and mathematics, as well as attitudes and habits related to effective learning: study skills, confidence, and an ability to persevere and succeed.

The Challenge of Underpreparation

While many students in this country have a powerful undergraduate experience that propels them into successful, fulfilling lives, alarming numbers find their educational aspirations frustrated. This reality is evident across all sectors of higher education but especially in the community college, which by history and mission opens its doors to all comers. There are multiple reasons for this failure, but first among them is that so many students entering higher education through these open access institutions have not received the preparation they need to succeed.

In California, the Community College Chancellor's Office reports that up to 90 percent of incoming, first-time community college students test below college level in math, and in reading and writing the number is over 70 percent (Moore and Shulock, 2007, p. 12). The odds are high that these students will fall by the wayside as they struggle to make their way through multiple levels of remediation. Indeed, according to the state's Center for Student Success, "Only one-quarter of students initially enrolling in a reading fundamentals course in community college ever enroll in a transfer-level English class, and only 10 percent of students beginning in a basic math course ever enroll in a transferable math course (2005, cited in Moore and Shulock, 2007, p. 12).

With these realities in view, a growing number of educators and education-watchers argue that improving the learning of students who are not prepared to do college-level work must now become "job one" for community colleges (McClenney, 2007). The urgency of this agenda is increasingly clear as a college education becomes a prerequisite for middle-class life and for meeting our country's need for capable workers and engaged citizens.

California: A Laboratory for Improvement

California offers a particularly rich laboratory for exploring what is happening with underprepared learners, and what is possible in working with them. By long-standing policy, the state's 110 community colleges provide the only access to higher education for two-thirds of first-time students in the public sector. Most of those students never achieve the skills or credentials they need to improve their life chances. And based on current demographic projections, the situation is likely to worsen as community colleges seek to serve larger numbers of underprepared, first-generation students for whom the odds of success—be it a certificate, two-year associate's degree, or movement into a four-year program—are slim (Hayward, Jones, McGuinness, and Timar, 2004).

With these challenges looming, the state has been home to several high-visibility efforts in pre-collegiate education in the last few years: a major, agenda-setting report from the Academic Senate for California Community Colleges (2003); a state-wide initiative to improve basic skills instruction; and a number of foundation-funded projects. One such project is the focus of this report: Strengthening Pre-collegiate Education in Community Colleges, co-sponsored by The Carnegie Foundation for the Advancement of Teaching and The William and Flora Hewlett Foundation.

Strengthening Pre-collegiate Education in Community Colleges

Strengthening Pre-collegiate Education in Community Colleges (SPECC) is an action-research project focused on teaching and learning in pre-collegiate mathematics and English courses at 11 California community colleges. These courses, which cover material often termed "developmental" or "basic," are meant to serve as gateways for students poorly prepared for success in college-level courses. Unfortunately, many such students encounter these courses as obstacles rather than gateways, leaving the higher education system almost before they begin. This failure comes with high stakes for them as individuals and for society.

SPECC PROJECT RESOURCES

"Strengthening Pre-collegiate Education in Community Colleges: Project Summary and Recommendations" is one of a number of SPECC products and publications developed by Carnegie staff members. For a full listing, see www.carnegiefoundation.org/specc.

SPECC's goal has been to foster a culture in which educators work together, informed by evidence, to strengthen these students' learning. On each college, project participants explored different approaches to classroom instruction, academic support, professional development, and assessment. They also examined the effects of these interventions by analyzing a wide range of data, including examples of student work, classroom observations, and larger patterns of student success, retention, and persistence.

For details about SPECC project activities on each of these campuses, see www.carnegiefoundation.org/specc.

The Importance of the Classroom

Clearly there are many facets to the challenge of working with underprepared students, and many factors that need to be rethought and reshaped: funding formulas, public advocacy, student support programs, and better data systems. **SPECC's special niche has been the less visible but core activity of education: teachers and students working together in the classroom.** The classroom is especially important for community college students, because for many it is the only point of contact with the institution.

The classroom is also critical because most entering students have already studied the subjects they will encounter in basic skills courses. Unfortunately, as evidenced by placement tests administered to new students, their previous work has not sufficiently prepared them for college-level work. The challenge then is to find more effective teaching approaches that will give underprepared students the foundation they need to move ahead in higher education.

This challenge is magnified by the fact that these students often do not think of themselves as "college material." Though they bring powerful life experiences to their work as learners, they may need help seeing those experiences as assets in an academic setting. And while all students need encouragement, inspiration, and motivation, these conditions are especially important for students who have not succeeded in the past, who have been away from formal education for a number of years, or who come from settings in which higher education is not the norm.

Promising Approaches to Teaching and Learning

To meet the challenges of underpreparation, SPECC invited 11 California community colleges to experiment with a variety of classroom approaches, building on efforts that were already taking shape, and learning from one another along the way. Based on the recognition that "basic skills" are not simple to learn or to teach, their innovations included the following:

Learning communities: linking two or more courses in ways that highlight the connections between academic content areas—for instance, reading and mathematics, or writing and sociology. Learning communities for basic skills students often integrate student services and counseling as well. Students benefit from the greater sense of connection across subject matter and also from the enhanced experience of community with one another as they move through linked courses together.

Academic tutoring and support: extending opportunities for learning by having peer or professional tutors in learning centers, writing labs, and study sessions that focus directly on work assigned in classes. Students benefit from having more time to work with course material and from more individual attention.

Reading instruction: developing explicit attention to literacy in courses across the curriculum—not only in English classrooms but in mathematics courses that deal with word problems, for instance. Several colleges trained faculty and tutors in Reading Apprenticeship, a research-based approach that grew out of work in K-12 classrooms.

Technology in the classroom: taking advantage of new technologies that can support students in their learning. Examples include the use of computer labs for teaching reading and writing, and software that allows both students and faculty to track progress on homework assignments in basic skills mathematics courses.

PARTICIPATING COLLEGES

- **Cerritos College**, Norwalk, CA
- **Chabot College**, Hayward, CA
- **City College of San Francisco**, San Francisco, CA
- **College of the Desert**, Palm Desert, CA
- **College of the Sequoias**, Visalia, CA
- **Glendale Community College**, Glendale, CA
- **Laney College**, Oakland, CA
- **Los Medanos College**, Pittsburg, CA
- **Merced College**, Merced, CA
- **Pasadena City College**, Pasadena, CA
- **West Hills College District**, Coalinga, CA

Designs for Learning

There is no single best method for teaching underprepared students, and SPECC deliberately encouraged a range of models. However, the promising approaches found on SPECC campuses can be described as having some or all of the following often overlapping features:

High Structure—Providing students with explicit step-by-step guidance for undertaking complicated academic tasks

> A mathematics faculty member developed a step-by-step process to help students translate word problems into mathematical terms they could successfully solve. Students who learned this approach outperformed those in other sections on the word-problem segment of the department's final exam.

High Challenge—Engaging students in authentic debate and intellectual exchange

> A teacher in a basic skills English course asks students to read, evaluate, and respond in writing to essays about complex social issues such as immigration. Students' essays demonstrate the ability to take a stand, use evidence from experts, and integrate their own experiences into their writing.

Intensity—Creating learning experiences that hold students' attention more fully because they are more sustained, more engaging, and "high dosage"

> On one SPECC campus, the mathematics department created an intensive, two-week "Math Jam" for basic skills students. Ninety-one percent of students in the summer program were retained, 89 percent qualified for a selective follow-up course, and 56 percent significantly improved their scores on a placement test designed to assess their skill level.

Intentionality and Learning How to Learn—Helping students understand themselves as learners, know what is expected and why, and master strategies for studying that will help them to succeed

> In a SPECC English course, students learned to use a three-stage process for evaluating their own writing. At the beginning of the semester fewer than half of them could accurately judge the quality of their own writing; by the end of the semester 90 percent could do so.

Inquiry and Assessment to Make Learning Visible—Making students' experiences as learners visible to teachers, and to the students themselves, in ways that can inform and support what happens in classrooms

> Students at one SPECC college worked with faculty to create a video about their experiences with reading assignments. The video is now used in classrooms to spark conversation around strategies for succeeding as college readers. In addition, it has prompted discussion about reading instruction among faculty in a wide range of disciplines and fields.

Faculty Learning and Development

An important lesson from the work in SPECC classrooms is that making instructional changes to support student learning requires greater attention to professional learning. That is, educators—as well as students—need opportunities to develop and grow. Rather than the usual smorgasbord of workshops, speakers, teaching tips, and conferences unconnected to a clear vision of the learning students need to achieve, approaches employed on SPECC campuses reveal that professional development needs to be:

- connected to a vision of student learning, to curriculum, and to assessment;
- ongoing;
- collaborative;
- rooted in inquiry and evidence about learning.

SPECC colleges created professional development opportunities where educators worked collaboratively to examine student work, assess and redesign the curriculum for developmental courses, create common assessments, and look more deeply at obstacles to or supports for student learning. A keynote of these settings was a **focus on inquiry** in which teachers formulate and explore questions about their students' learning and then use the answers to improve their teaching.

Survey responses from 131 participants in SPECC Faculty Inquiry Groups point to the benefits educators see in this model of professional growth and development:

- 88 percent report that "my understanding of the student learning process has deepened"
- 88 percent say that they "experimented with new teaching strategies"
- 82 percent feel "more confident in responding to student learning challenges"
- 74 percent say "my teaching has been re-energized"
- 72 percent respond that "my expectations for students' learning" were raised

Additionally, 70 percent of survey respondents agreed or strongly agreed that the process resulted in their having "evidence that my students' learning has improved."

FACULTY INQUIRY GROUPS

Faculty Inquiry Groups are a form of professional development in which educators work together to identify and investigate questions about their students' learning. For example, teachers of basic skills mathematics might meet together over the academic year to develop a sequence of problems that help students learn to work with equations; faculty who teach literacy skills might meet with colleagues from career and technical education programs to deepen understanding about the teaching of reading in different contexts. The inquiry process is ongoing, informed by evidence of student learning, and undertaken in a collaborative setting. Findings from this process come back to the classroom in the form of new curricula, assessment, and teaching approaches, which in turn become subjects for further inquiry.

For more information on the design and impact of Faculty Inquiry Groups, see "The Promise of Faculty Inquiry for Teaching and Learning Basic Skills" at www.carnegiefoundation.org/specc.

The Role of Evidence in Improving Student Learning

The SPECC colleges charted different paths to improvement, and they are at different points along those paths. One thing they have all done, however, is track the results of their innovations using agreed-upon definitions of student success, retention, and persistence—comparing results in SPECC courses with those in baseline groups.

Beyond the use of these common metrics, each college studied the effects of its own efforts, drawing on a range of data and evidence, including focus groups with faculty and students, interviews with individual students, common examinations, surveys, and partnerships with university researchers who studied their work and progress. A central principle of SPECC's work is the value of evidence, and the habit of using evidence to dig more deeply into the process of learning. Three lessons follow.

1. Evidence can help identify and catalyze action around problems that might otherwise remain invisible.
Community college educators put significant energy into helping their own students reach course or class goals. But often they do not have easy access to information about what happens to those students in subsequent semesters. It may be difficult, then, to recognize what's not working or where improvements are needed. Tracking student progress over time, across semesters, can focus attention on a problem that would otherwise remain invisible.

COMMON DATA ELEMENTS TRACKED BY SPECC CAMPUSES

SUCCESS RATE: the percentage of students in a class (out of the total enrolled) who received an A, B, C, or CR (credit).

RETENTION RATE: the percentage of students (out of the total enrolled) who did not withdraw but were "retained" through the end of the course, even if they did not receive a passing grade.

PERSISTENCE RATE: the percentage of students who enroll in a course the following semester.

These definitions are taken from the Research & Planning Group for California Community Colleges, whose Web site provides further details about their calculation.

See www.rpgroup.org/publications/definitions.html.

For example, when Los Medanos College began looking critically at its basic skills classes, their institutional research office conducted a retrospective study of student persistence. Of the 177 students who were enrolled in the developmental English course two levels below college-level in fall 1993, only eight had continued into and succeeded in the college-level English course (required for transfer to a four-year institution) by fall 1996. This finding played a key role in catalyzing efforts to improve basic skills teaching and learning that continue today, illustrating the power of evidence to put a problem on the table.

2. Evidence can enrich understandings of the student learning process and how to improve it.
The usual metrics of student performance—success, retention, and persistence—are important benchmarks of educational effectiveness, but by themselves they do not fully reveal either the nature of students' difficulties or how to overcome those difficulties. Teachers may know that students struggle with negative numbers or word problems, for instance, but to help them do better it's important to know why and where those struggles begin. Putting a wider range of evidence into the picture is crucial in this regard. Think Alouds (where students articulate their thoughts while solving a math problem or reading a passage of difficult text), student portfolios, interviews with students and faculty, and samples of student work can provide a revealing window into student learning and thus catalyze and steer improvement in important directions.

3. Evidence can capture and assess the effectiveness of an experiment or change.
Many faculty today are trying out different classroom approaches: innovative uses of technology, curricular structures that build supportive classroom communities, strategies that require active student involvement, and practices that help students monitor their own learning and strengthen their "studenting" skills. However, innovations like these are rarely captured in ways other teachers can review and build on. Thus, SPECC has worked with faculty to document their innovations and make results available to others. *Windows on Learning* (www.gallery.carnegiefoundation.org/specc/) is a collection of multi-media Web sites in which SPECC faculty share their classroom approaches and demonstrate how those approaches contribute to student learning. Finding more visible, accessible ways to capture evidence of learning is a crucial step in ongoing educational improvement.

This kind of visibility brings risks as well. Well intentioned innovations do not always bring positive results. Sometimes this is because the innovation is poorly implemented or simply inappropriate to the setting. But sometimes an innovation needs a longer timeframe to succeed or new forms of evidence and analysis to reveal what *is* being accomplished. Colleges committed to real improvement must create a culture in which positive results are monitored and valued, but where risk taking, disappointment, and even failure are seen as necessary ingredients in ongoing improvement efforts as well.

Toward A Culture of Inquiry and Evidence

The above examples illustrate a variety of ways that a fuller range of data and evidence at various levels—classroom, program, and institution—can catalyze and steer improvement. But data and evidence alone are not enough. What's needed is a **college-wide culture** in which faculty, counselors, department chairs, offices of institutional research, and institutional leaders develop habits and skills of asking questions, gathering information, and engaging in evidence-based decision making to strengthen student learning. The work is not easy. Time is at a premium, and few incentives for such work currently exist. Institutional research offices have not typically been in the business of looking at questions of student learning, and most faculty have little experience analyzing data they might use to improve their own teaching. A culture of evidence will require greater capacity and new roles, but it is a key ingredient in the formula for ongoing improvement.

Recommendations for Action

Faculty are the primary audience for SPECC's work and conclusions because the classroom was the project's central focus. If change does not happen at the **classroom level**, student learning cannot improve. At the same time, the capacity to make and sustain important changes in the classroom often depends on action at the **college level**, such as providing more powerful occasions for educators to learn about what works for students. Additionally, some improvements require greater **system-level** coordination and incentives. With this multi-level strategy in view, the following recommendations point to steps that should be taken by actors in all three arenas. They are drawn directly from the work of the 11 SPECC colleges, and focus on those aspects of improvement that were most central to the project.

1. The success of underprepared students must be an institution-wide, core responsibility.

The majority of new students entering California's community colleges are underprepared for college-level academics. But students are not alone; colleges, too, are underprepared. Institutions often do not want to be seen as "the place for basic skills," placing more value on the highly traditional mission of student transfer to four-year institutions, and ignoring the fact that student under-preparation is an issue across virtually *all* courses—not only those that are specially designated for basic skills work. As a result many community colleges have not made the commitments or found the resources required to make pre-collegiate education a priority. Most faculty have no particular training to teach under-prepared students; their primary allegiance is with their discipline, and the prospect of teaching students who need assistance in basic literacy and numeracy skills is not high on the agenda. In addition, because of the need for large numbers of sections of developmental classes, many such courses are taught by part-time faculty, who often bring strong teaching skills and commitments but do not have the time or support to become part of broader campus improvement efforts. For all of these reasons, improving the success of underprepared students must be a shared, college-wide responsibility, with leadership and commitment at every level.

Faculty

Faculty must take appropriate responsibility for their students' learning, bringing the most effective practices to their classrooms and working with others to improve those practices.

We recommend that faculty:

- Commit to teaching basic skills classes and educating themselves about the principles and methods that work best for underprepared students.
- Work together to articulate goals for student learning in basic skills courses and share those goals with students in clear, explicit ways.

- Develop courses and curricula that provide a pathway for students through their developmental work.
- Develop common standards for grading across multiple sections of a basic skills course and across the sequence of basic skills courses.
- Mentor colleagues who are new to basic skills instruction.
- Collaborate with teachers of general education and career/vocational classes that can provide a context for basic skills content.

College

Administrators, faculty, and staff should share responsibility for the success of underprepared students and make the success of all students a priority for the entire college.

We recommend that college leaders:

- Create college-wide opportunities, such as commencement and all-college meetings, to recognize the importance, the challenge, and the successes of basic skills instruction.
- Designate time and resources to engage disciplinary faculty, counselors, and institutional researchers in a college-wide effort to develop, review, and refine the basic skills program.
- Create incentives for full-time faculty to teach basic skills classes and to lead the development of basic skills curriculum, learning outcomes, and assessments.
- Allocate resources to support active participation of part-time faculty in basic skills program development and delivery.
- Ensure that data about underprepared students is gathered, shared, and engaged by the college community.

System

Champion basic skills instruction and support with funding, resources, and leadership.

We recommend that the community college system:

- Give high priority and visibility to the basic skills mission and connect it to success in other aspects of the community college mission, including transfer, preparation for career and work, and local economic development.
- Continue to support statewide efforts, such as the California Basic Skills Initiative, that recognizes the importance of basic skills, and direct resources to basic skills instruction on all colleges.
- Highlight community college efforts—in California and beyond—that are successful in increasing the success of basic skills students at the classroom, program, and college level.
- Design system-wide incentives for colleges to increase student success as well as access.
- Collect data about basic skills students and use the data to communicate the importance of this agenda to various stakeholder groups.

2. Professional development should be reinvented as an intellectually engaging, integral element of the work of an educational institution.

Most community colleges offer occasions and opportunities for faculty and staff to hone their skills as educators. But much has now been learned—from SPECC and other community college projects and from work in other K-16 educational settings—about the features of powerful professional development. Based on these findings, what's needed is a different way to think about professional development—not as special occasions offered on a periodic basis but as an integral part of faculty and institutional work. Professional development should be a way to learn from and continuously improve practice; at its best it leads to greater learning by students, faculty, the college, and the system.

Faculty

Make experimentation, inquiry, and reflection a part of the teaching process, and engage with colleagues in collaborative efforts to improve student learning.

We recommend that faculty:

- Seek out opportunities for professional growth and learning that connect to goals for student learning.
- Explore how the regular responsibilities and tasks of faculty life—curriculum development, the design and grading of exams, the development of assignments—can become occasions for professional growth and learning.
- Organize and participate in activities such as Faculty Inquiry Groups, in which faculty members collaboratively examine and investigate student learning and the ways different teaching approaches, techniques, and environments influence learning.
- Create and take advantage of opportunities to work with colleagues in disciplinary and cross-disciplinary groups that examine student learning.
- Document and share effective teaching practices so that colleagues can build on them.

College

Make ongoing professional development an institutional responsibility and a part of the job description for all educators, full- and part-time.

We recommend that college leaders:

- Experiment with more flexible ways of calculating teaching loads in order to make a space for significant professional growth and development.
- Create incentives for faculty participation in professional development, linking leadership and accomplishment in this arena to promotion and other rewards.
- Develop a college-wide professional development plan, linked to plans by departments and individual faculty and staff.
- Establish institutional structures, such as teaching and learning centers, that provide space, time, and other support for educators to reflect together on their work; create opportunities for both disciplinary groups and interdisciplinary groups to meet.
- Develop policies and provide resources to involve part-time educators in substantive professional development.

System

Support professional development that is ongoing, directly linked to curriculum and instruction, and undertaken collaboratively and collegially across all colleges.

We recommend that the community college system:

- Continue to support statewide, regional, and local professional development activities, such as those that are part of the California Basic Skills Initiative.
- Create a statewide infrastructure for professional development that works to increase and disseminate powerful ideas about the education of underprepared students.
- Work with graduate schools to develop programs for community college leaders—administrators and faculty—who will see basic skills education as a core commitment.
- Recognize and showcase colleges that have made progress in establishing campus professional development programs and can show the contribution of professional learning to increased student learning, teacher learning, and institutional learning.

3. Institutional research must be expanded to focus more directly on core issues of teaching and learning.

As their name implies, institutional research (IR) offices have traditionally focused on institutional data (enrollment, graduation rates, etc.), often in response to reporting requirements. These are critical and important patterns to monitor, but they only *indirectly* speak to questions about student learning. They are necessary but not sufficient. Making student success a real and shared priority means thinking more boldly about institutional research and requires reshaping roles and expanding capacity.

Faculty

Collaborate with institutional researchers to generate and use a wide range of data to improve the learning and teaching of underprepared students.

We recommend that faculty:

- Work with colleagues and with staff in institutional research roles to identify and gather evidence to answer consequential questions about the learning and success of underprepared students.
- Develop greater sophistication in understanding, interpreting, and using new kinds of data about student learning.
- Invite the attendance and participation of institutional research colleagues in faculty meetings devoted specifically to issues of student learning.

College

Encourage and facilitate cooperation among institutional research staff, faculty, and student support staff.

We recommend that college leaders:

- Set expectations for the use of a wide range of evidence in decision-making.
- Value both quantitative and qualitative data.
- Define new roles for institutional research personnel that emphasize working closely with faculty and student support staff to generate and use information about student learning and success.
- Create strategies and occasions (e.g. Faculty Inquiry Groups) that bring faculty and institutional research personnel together around critical questions about teaching and learning.
- Cultivate a campus culture in which institutional evidence and information about student learning are consistently "on the table" in planning, designing, and assessing educational practices and policies.

System

Increase capacity for and commitment to the effective use of data in college and system-wide decision making.

We recommend that the community college system:

- Establish a clear, consistent process for identifying all basic skills students entering the system.
- Collect appropriate data to allow the tracking of basic skills students' progress through their coursework.
- Increase the availability of and access to statewide data so that campuses can see their work in the context of peer institutions.
- Coordinate and facilitate the exchange of data, information, and evidence of student learning across colleges and districts.
- Support increased research capacity, especially at small colleges and districts.
- Highlight examples of effective data use in college and system-wide decision making.

ENGAGING OTHER STAKEHOLDERS

Beyond the three levels of action by faculty, colleges, and the community college system indicated in SPECC's recommendations, significant improvements in pre-collegiate education will require commitment by stakeholders from beyond the educational community. While outside the purview of SPECC's teaching and learning focus, it is clear that some recommendations will require further resources from the state and new policies that alter how resources can be spent (see Moore and Shulock, 2008). Pressure and advocacy from business and industry, community organizations, and political action groups (see the Campaign for College Opportunity at www.collegecampaign.org), will also be needed to make basic skills education a central commitment in the state.

4. Community colleges should lead the way in developing richer, more revealing measures of student learning.

The metrics commonly used to measure educational effectiveness—student grades, retention, persistence, and degree attainment—will continue to play an important role. But widely varying grading standards across instructors, and unreliable or nonexistent information on students' educational and career goals, render these metrics less than optimal as indicators of student learning. Community colleges can be powerful laboratories for creating a fuller, richer set of assessment tools—aimed not simply at tracking progress, or the lack thereof, but at understanding how to facilitate important forms of learning and personal development.

Faculty

Make assessment an integral part of the teaching process, using it to strengthen student learning and guide improvement.

We recommend that faculty:

- Develop assessment tools and approaches that capture the complex ways in which different students move toward learning outcomes that are critical for success in today's world.
- Promote the use of low-stakes classroom assessment (such as Think Aloud protocols) that give teachers as well as students useful insights into student understanding and student learning difficulties.
- Design and share examination questions that can be used to prompt department deliberations about grading standards and student progress.
- Collaboratively create rubrics and criteria for assessing key outcomes within and across courses.
- Encourage and provide structures and tools (e.g., student portfolios) by which students can become more effective judges of their work and hence more active agents in their own learning.

College

Bring faculty, staff, and institutional researchers together to develop and use meaningful indicators of student learning that can guide college improvement efforts.

We recommend that college leaders:

- Provide structures and occasions for faculty to discuss and share the strategies and tools they find most helpful in monitoring and evaluating student learning.
- Support the development of new measures of learning that can guide local improvement.
- Work with faculty and institutional research personnel to explore ways of integrating complex measures of student outcomes into institutional databases and decision making.
- Find ways to include student voices and perspectives in conversations about learning outcomes and their assessment.

System

Encourage and highlight the value of a wide range of indicators of student learning across colleges.

We recommend that the community college system:

- Encourage and support cross-college exchange of information about indicators of student progress and learning.
- Create a coordinated, statewide network for developing a wider range of tools for assessing students' growth in basic skills literacy and numeracy.
- Join forces with other community college systems and professional organizations to provide leadership in the assessment of basic skills.
- Help colleges to learn about the many assessment issues and developments under discussion in the larger higher education community in California and beyond.

5. Ongoing larger-scale improvement requires a wider network and infrastructure through which promising developments on individual colleges can be made visible, shared, and built upon.

Higher education today is increasingly enjoying the benefits of an emerging "teaching commons," a conceptual space in which educators from all settings and sectors can share their questions, explorations, and new insights about student learning. Participation in this kind of exchange is a critical condition for ongoing improvement. What's needed then is purposeful investment on multiple levels in the occasions, structures, networks, and tools through which educators who work with underprepared students can share what they know in ways that allow colleagues in other settings to learn from and build on their work.

Faculty

Participate in campus, regional, statewide, and national forums where issues in teaching and learning basic skills are discussed.

We recommend that faculty:

- Become familiar with various campus offices and people who play a role in supporting the success of underprepared students.
- Organize and join special projects and initiatives in which committed individuals come together to improve education in basic skills.
- Seek opportunities to visit and learn about colleagues' classrooms and programs, on campus and beyond.
- Experiment with new technologies to document and share effective classroom practices.
- Read, discuss, and contribute to the literature on teaching and learning basic skills.

College

Create structures and occasions that bring people together to talk about their students' learning and how to help students better meet their educational goals.

We recommend that college leaders:

- Support projects and initiatives at the course, program, and departmental levels that enable educators to work collaboratively on teaching and learning basic skills.
- Organize college-wide occasions and forums for educators to share work on teaching and learning.
- Involve students in these discussions and forums whenever possible.
- Strengthen the infrastructure necessary for pedagogical collaboration and exchange, such as library resources, technology support, and institutional research.
- Support educators' participation in cross-college exchanges, including regional, state-wide, and national conferences on teaching and learning.

System

Support cross-college exchange about the teaching and learning of underprepared students, leveraging local expertise to create larger-scale improvement.

We recommend that the community college system:

- Organize regional and statewide forums for sharing work on teaching and learning basic skills, such as annual and special-purpose conferences, journals, and online events.
- Encourage and support exchange across institutions, through college visits and consultations.
- Support multi-college projects and initiatives that bring new perspectives and ideas into the mix.
- Create opportunities to connect with K-12 and four-year institutions of higher education.
- Create a coordinated, statewide network for sharing knowledge and resources on developmental education.

Conclusion

The discussion and recommendations in this document parallel in many ways those presented by other community college projects and studies in California and nationally. Indeed, the alignment of views gives greater weight to the lessons shared across these efforts. But this is not to say that progress will be easily achieved. Bringing real attention and priority to the education of students who begin higher education underprepared for college-level work will require coordinated action on multiple levels, a difficult task in a "system" that is in many ways *not* a system, and where local considerations often (and appropriately) drive institutional practice. In this context, the importance of real collaboration and leadership—by faculty, college administrators, policy makers, and members of the wider public who understand the critical need for an educated workforce and citizenry—has never been greater.

The opportunities are great as well. As this document is being written, its authors at the Carnegie Foundation have been impressed by a chorus of voices pointing with unprecedented energy, organization, and resolve to the need to bring underprepared students to significant levels of accomplishment. What we have also heard again and again is the importance of continued work at the classroom level, directly involving students and teachers. As we have learned in SPECC, community college faculty bring remarkable commitment, resourcefulness, and intelligence to their work. Like the institutions in which they work, they bring a "can do" attitude, an ability and willingness to try new things, and a deep commitment to students. The point of these recommendations is to support, encourage, and amplify their best work, and to recognize that faculty are the single most important resource for ongoing improvement.

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