Chapter 1
Taking A Risk to Learn: What It Means to be “Prepared”
for Higher Education

Learning from its very beginnings entails a process of courting failure and learning to play with it.

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This chapter briefly introduces expectations for higher education’s graduates since intended outcomes give us a good idea of what kind of learning is valued in the academy, presumably for all students. But to create challenging and supportive learning environments for entering developmental students, we need to know about their experiences of learning. What factors contribute to being underprepared? What limits learning possibilities? How might we move students to a place where they can become fully engaged, confident learners, prepared to do college level work?

Articulating higher education’s expectations

The most current thinking about learning outcomes for undergraduate education can be found in Greater Expectations (2002). This document is the product of a three-year dialogue, convened by the Association of American Colleges and Universities (AAC&U), where leading educators, campus teams, and hundreds of educators from across the country constructed a collective vision regarding the purpose of education, higher standards for all students, and a more successful kind of education that would reach more people. The invigorated, practical liberal education called for intentionally unites liberal arts and professional and technical programs. The students we aim to graduate will be “empowered through the mastery of intellectual and practical skills; informed by knowledge about the natural and social worlds and about forms of inquiry basic to these studies; responsible for their personal actions and civic values” (xi). The report goes on to detail the learning students will need for the twenty-first century (21-28).

Greater Expectations also celebrates the diversity of students as a critical source for enriched, transformative learning. Educators want students to value the multiple perspectives and abilities of people unlike themselves and are prepared to make this an explicit part of students’ education. The report, rich in its complexity, is also frank about pressing issues higher education needs to address, among these the fact that many entering students are not ready for college.

Arriving “underprepared” for college

Subheadings in Greater Expectations signal external circumstances or “barriers to readiness” that reduce the chances of academic success for some students well before they attend their first class: continuing patterns of separation and discrimination; limited interpretations of learning; a one-size-fits-all approach to assessment and to learning; uneven preparation for independent, demanding college-level study; and misalignment of high school work with college level expectations (12-15). We examine three of these circumstances in detail: the first, “misaligned expectations,” where even the most academically...
able high school graduate may not be prepared for college; second, “risk factors” that indicate who is less likely to complete college and why; and third, the “academic achievement gap” that speaks to enduring school inequities and their effect on children’s prospects for college.

**Pre-collegiate preparation**

Pre-collegiate preparation depends on the extent to which a state’s elementary and secondary school systems equip young people for college-level learning. In many states misaligned education systems are residuals from a time when few high school students continued their education at a college (Callan 2001). Now 75 percent of high school graduates in the country go on to postsecondary studies. Yet only 67 percent of these students earn standard high school diplomas and only 42 percent graduate with college-entry skills (McCabe 2000).

In many states, high school graduation standards are at a lower level than college-entry skills. As Robert McCabe notes in *Underprepared Students*, his response to *Measuring Up 2000: The State-by-State Report Card for Higher Education*: “Even with aggressive school reforms in place in many states, every year over one million academically underprepared students enter higher education and are in need of developmental, or remedial, education services” (2). This number translates into a picture that may surprise some educators: in fall 1995, the National Center for Educational Statistics found that 41 percent of first-time students in all undergraduate institutions took at least one developmental course in reading, writing, or mathematics (NCES 1996). Using data from student transcripts, the *High School and Beyond* study estimates that 63 percent of community college students and 40 percent of students at four-year colleges take at least one developmental course (Bailey 2001). Hunter Boylan (1995) notes that more than two million students are enrolled in various developmental reading, writing, and mathematics courses during a given academic year. This number excludes students enrolled in other developmental courses or an estimated 700,000 students in educational opportunity programs that offer developmental courses or services (Boylan and Saxon 1998).

Far from being a new trend, these figures confirm persistent findings over three decades that alarmed educators in the 1970s and throughout the 1980s and 1990s. Between 1970 and 1979, the verbal SAT scores of college freshmen declined by 40 points and math SAT scores declined by 18 points (Roueche et al. 1984). In the 1980s, the majority of freshmen going to community colleges read below the eighth grade level, a decline in two grade levels from 1971 (Trow 1983). Another study revealed that one-half of high school seniors could not solve problems with fractions and decimals and more than 85 percent could not write and think analytically in English (NCES 1991). By 1990, a broader newspaper-reading public knew about the nationwide “basic skills crisis” and its implications for American society and the country’s schools (Sprout 1990).

**Risk factors**

What does it mean for students to be “at risk” in higher education? A report from the Community College Survey of Student Engagement (CCSSE),
Engaging Community Colleges: A First Look (2002), identifies eight risk factors that indicate who is least likely to meet their educational goals in higher education. Six factors represent what many of us would regard as an account of an ordinary life: someone who works more than thirty hours a week, cares for children at home, is a single parent, attends school part-time, pays his or her own college costs, and thinks the expense of going to college is a “significant issue.” Two other risk factors describe either a family’s historic relationship to higher education, that is, being a first-generation college student, or an individual’s experience of schooling, that is, being academically underprepared. The indicators for this last risk factor include not earning a high school diploma and/or participating in or planning to participate in developmental education. Based on a survey CCSSE field tested in spring 2002, 66 percent of the approximately 33,500 students surveyed from forty-eight community and technical colleges are at moderate-risk indicated by two to four risk factors, while 9 percent are high-risk with five or more risk factors present in their lives.

Among risk factors, being academically underprepared is clearly a red flag. The more students need developmental education, the less likely they are to persist in their studies and graduate (Astin 1985). At-risk students typically begin their post-secondary studies having experienced negligible academic success in elementary and secondary schools; they also have weak self-concepts and inappropriate or poorly defined goals (Cross 1971, 1976; Maxwell 1979).

The League for Innovation in the Community College in Serving Underprepared Students (1990) reports that a disproportionate percentage of at-risk students are minorities from urban areas. The category of at-risk students also includes students with limited proficiency in English, immigrants, high school graduates, returning adults, high school leavers, and illiterate adults.

In Between A Rock and a Hard Place (1993), the Roueches do not mince words regarding higher education’s responsibility to the at-risk student:

All schools, colleges, and universities across the nation are failing at unconscionable levels to effectively meet the needs of the students that they enroll . . . we are being confronted with increasing numbers of students that we simply are not teaching effectively. The problem will not go away . . . (vii)

The Roueches note that 75 percent of high school seniors may theoretically qualify for college, but “they are clearly not equipped to do regular college work” (4). They estimate that as many as one-third to one-half of all incoming students to higher education meet the standard definition of at-risk. Compared to four-year colleges and universities, the student population at community colleges is three to four times more likely to reflect risk factors.

Academic achievement gap

As McCabe points out in No One to Waste (2000), “poverty has the highest correlation with educational underpreparation at every level, from preschool to graduate school” (12). His chapter on “Why America Depends on Community
College Remedial Education” is a disturbing account of successive governments’ failed promises and the effects on the country’s poorest citizens, especially the one in five children who grow up with none of the economic and educational advantages of their better-off peers. Test results by race/ethnicity in letter-writing and checkbook-balancing reveal the underbelly of the basic skills crisis. Only 60 percent of young Hispanics and 40 percent of young African Americans pass literacy and numeracy tests compared to 80 percent of white, non-Hispanic young people, the disparity in results attributed to the high correlation among poverty, undereducation, and minority status (Roueche and Roueche 1993).

McCabe (2000) reports that at college, 60 percent of developmental education students are white non-Hispanic, 23 percent are African American, and 12 percent are Hispanic. Each minority group is over represented, a pattern already evident in public school.

Impoverished neighborhoods, poorly funded schools, and curriculum stripped of its academic content lead to what Jonathan Kozol (1991) calls “savage inequalities” and Robert Moses (2001) refers to as a sharecropper’s education for children of color and the poor. Higher levels of poverty among Hispanic American and African American households are reflected in data on academic performance. By the ninth grade, only 84 percent of children who begin school are still enrolled. Of these remaining young people, another 16 percent will drop out before graduation. Within this group, 25 percent of Hispanic American teenagers and 13 percent of African American teenagers will leave school, compared to about 8 percent of white non-Hispanic teens (McCabe 2000).

The disparities among children are well documented by the eighth grade. For instance, in Minnesota, the top-performing state in mathematics proficiency, 35 percent of eighth graders score at or above proficiency levels on national assessments of math compared to only 7 percent in Louisiana and Mississippi. Throughout the country, 31 percent of all eighth graders score at or above proficiency levels while only 9 percent of low-income eighth graders achieve similar scores. These results are not unique to mathematics (see Measuring Up 2000), although the educational consequences of innumeracy are particularly devastating. In Radical Equations: Civil Rights from Mississippi to the Algebra Project (2001), Moses spells out the broader consequences for a people and a country:

In today’s world, economic access and full citizenship depend crucially on math and science literacy. I believe that the absence of math literacy in urban and rural communities throughout this country is an issue as urgent as the lack of registered Black voters was in Mississippi in 1961 . . . math literacy—and algebra in particular—is the key to the future of disenfranchised communities. (5)

Moses calls this cutting off of economic access the civil rights issue of our times. For the last thirty years, this former civil rights leader and mathematician has harnessed his talents to teaching high school students algebra and to organizing the Algebra Project,2 a grass roots movement for the transformation of
mathematics education. Without a decisive intervention in children’s schooling by the eighth grade, similar to the work done by the Algebra Project, young African Americans, Hispanics, and poor whites will be sidelined from the mainstream of economic and social life before they reach high school. For the very small percentage of students from impoverished neighborhoods who make it to higher education, developmental programs are not a second chance but instead represent a first opportunity to learn what has been missing from their public education. Simply surviving school to make it to college (including returning to school after a long absence) turns out to be an incredible achievement for many developmental and at-risk students. Staying in college beyond the first year also represents a victory: over half of all students enrolled in higher education drop out in the first year, 68 percent of students at two-year institutions compared to 53 percent at four-year institutions (Tinto et al.1994).

If we track what happens to people whose life circumstances make attending and staying in college a heroic expedition, we come face-to-face with a sobering snapshot, captured in a single table that compares college graduates, aged twenty-four, from high-income families with those from low-income families: 7 percent of poor youth obtain a bachelor’s degree compared to 48 percent of their wealthier peers (Education Trust 1998). These figures speak to an estrangement between the academy’s expectations for its graduating students—our Greater Expectations—and higher education’s collective inability to deliver on the egalitarian and democratic promise of access and educational opportunity for all.

**Gauging the impact of educational quality on degree completion**

Clifford Adelman’s landmark study, Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor’s Degree Attainment (1999), offers a comprehensive portrait of which factors contribute most to degree completion. He uses high school and college transcripts, test scores, and surveys to follow the school histories of a national cohort beginning in 1980 when students are in the tenth grade to 1993 when they are around thirty years of age.

Based on findings from this study, Adelman questions the significance of variables long associated with college completion such as the level of parents’ education or persistence from first to second year unless they are connected to students’ academic standing: how significant is being on a college preparatory track if few Carnegie units are earned in core academic subjects? Is part-time enrollment as telling a variable as the “DWT” index, the number of drops/withdrawals/incompletes compared to the total number of courses a student attempts? Variables that Adelman’s study indicate are critical to college completion include three findings which reveal the vital connection between being prepared for higher education and misaligned expectations, risk factors, and the academic achievement gap. The first finding is that “academic intensity and quality of secondary school curriculum” has the greatest impact on degree completion, including for African American and Latino students, compared to other pre-college academic indicators such as test scores and class rank/academic GPA (84-86). In fact, academic resources (the composite of high
school curriculum, test scores, and class rank) is a far more telling indicator of academic success than socioeconomic status (24-25). A second and related finding indicates that the higher the level of mathematics studied the greater the likelihood of degree completion (16-18). For instance, successfully completing a course beyond Algebra 2 such as trigonometry or pre-calculus more than doubles the odds that a student will complete a bachelor’s degree. The third finding is that the type and amount of remediation students require is tied to degree completion: 39 percent of four-year college students that placed in remedial reading courses completed degrees compared with 60 percent who took one or two other types of remedial courses, and 69 percent who did not require remediation (79).

The critical importance of the intensity and quality of high school curriculum to degree completion led Adelman to conclude that “opportunity-to-learn is our most important objective.” He notes that students need to take advantage of these opportunities; they need to be supported by school, peer, and family environments; and these opportunities-to-learn need to occur inside and outside school. Adelman’s study also suggests that curriculum quality needs to be emphasized in developmental education programs—the bridge between students’ often inadequate and poor educational experience in high school and demanding college-level courses.

The enormous challenges facing higher education are clear if we return to the students who took the ropes course. Since 2000, the TLC Program at Pasadena City College has staked out an ambitious agenda—to reverse a troubling trend on the third largest single campus in the country, where 40 percent of nearly 26,000 students failed in 1999, fewer than 4 percent transferred to the California university system, and less than 6 percent received certificates or degrees. Minorities make up 80 percent of the student body (37 percent self-identified as Latinos, 32 percent as Asian Pacific Americans, 4 percent as Filipino, 7 percent as African American, 20 percent as white, and less than 1 percent as American Indian). Many students are first-generation; two-thirds go to school part-time; 66 percent of their teachers are adjunct faculty. Student services are available in thirteen languages—Arabic, Armenian, Cantonese, Mandarin, Dutch, French, Italian, Japanese, Korean, Russian, Spanish, Tagalog, and Vietnamese. The college continues to affirm its mission as an open door, comprehensive institution for transfer, vocational, and developmental education and for adult basic education students who are over eighteen years of age, with or without high school graduation, who can profit from the instruction offered.

But, when students move on from the Title V-funded project, will the college continue to give the young students I met the ongoing support they already know they will need to be successful? Will the college be able to scale-up this learning community pilot to meet other entering students’ needs? Would any of our campuses, faced with similar challenges?

**Differentiating between degrees of underpreparedness**

In 1979, a decade after an open door policy became the norm in higher education, Martha Maxwell—founder of learning centers and reading and study skills programs at several universities, and leader of an annual institute at Berkeley for directors and staff of college learning centers throughout the
country—addressed the question of “who are the underprepared students?” She
did so from the perspective of an insider, charged with implementing higher
education’s promises to its least prepared students. At the time, Maxwell was very
familiar with problems students had in adapting to the academic demands of
college and with the learning support services colleges provided to help them. She
had worked as a counselor, academic advisor, reading/learning disabilities
specialist, and teacher of special programs for low achieving college students and
adults for many years. Given her experience, Maxwell did not settle for a simple
definition of academic underpreparedness.

In *Improving Student Learning Skills* (1979), she notes that students can be
misprepared for college-level studies through poor choices made at some point in
their lives where they (or others) select a program that does not prepare them for
college-level work. Courses taken in high school may not reflect college-level
expectations or the two educational systems may not be aligned, graduating
expectations a poor fit with incoming expectations. Other students are simply
underprepared; they leave high school before graduating. For some adult learners
with either physical or learning disabilities, college may be the first opportunity to
fill in missing educational pieces. Some adult learners, away from school for
extended periods of time, forget what they once knew. Most students will struggle
with the expectation that they are responsible for their own learning. Maxwell
expects that the majority will also be anxious and fearful of failure when faced
with escalating academic difficulties.

Underpreparedness is relative, Maxwell argues. Compared to capable peers,
underprepared students are “those whose skills, knowledge, and academic ability
are significantly below those of the ‘typical’ student in the college or curriculum
in which they are enrolled” (3). By this definition, whether someone is
underprepared for college depends on the particular institution—its entrance
standards, the expectations of its faculty, and the characteristics of its average
students—and the students’ own degree of preparedness. In other words, college
readiness and the possibilities for success are highly contextualized and
institutionally based. Entering freshmen can be underprepared not only in relation
to entrance standards, but also in relation to particular departments’ prerequisites
or expectations, either explicit or implicit. Instructors’ expectations about college
level work differ too even if they teach courses with an identical title and number.
Assignments given to incoming students, from writing-intensive research reports
to problem-based projects to multiple-choice exams, are among the most
significant indicators of differences.

Maxwell offers this caution: “The strongly motivated, high-achieving student
will succeed despite poor teaching and inappropriate materials, but the
underprepared student will not”(x). In her experience, “the further students fall
below the college’s norm, the more likely they are to have serious academic
difficulties, and the harder it is to help them” (3-4). She advocates using various
placement assessments to determine degrees of underpreparedness and the best
combination of academic support services for each student. Maxwell’s practical
guide on the planning and assessment of student-centered developmental
programs and learning assistance centers continues to be influential (see revised
Although Maxwell does not think that one developmental program or service can meet the diverse needs of all misprepared or underprepared students, she outlines essential features of an effective, integrated approach to working with developmental students: (1) student services and academic departments should coordinate efforts; (2) students, including those with learning disabilities, should be treated as adults and full participants in planning academic support services; and, (3) teachers should use appropriate, college-related materials along with methods designed to help students with learning problems learn. A variety of learning community models have been developed that build on these important insights, which will be discussed in chapter three.

Understanding the challenges posed by “New Students”

In Beyond the Open Door (1971), K. Patricia Cross turns on its head the question of whether students are prepared for higher education and asks whether higher education can change sufficiently to be prepared for its “New Students.” Although her “new educational program for New Students” never made it onto the educational reform agenda, it is still worth looking at because it focuses on what continues to be most problematic about educational programs for underprepared students—the inattention paid to curriculum and teaching quality in relation to many non-traditional students’ distinctive approaches to learning.

In Honored But Invisible (1999), for instance, Grubb and his colleagues are critical of a “student support” pedagogical approach that assumes if students are given sufficient encouragement they will develop into autonomous, empowered learners who can learn anything: “This approach describes a role for instructors (or student service personnel like counselors) in their personal relations with students. However, it is silent about every other element of teaching: how to present academic or occupational content, appropriate goals for learning, what assessment should be devised, the responsibilities of students. In our interpretation ‘student support’ in its extreme form is really an evasion of teaching responsibility rather than a distinctive approach” (36). They review award-winning developmental programs and conclude that most programs for low-achieving students provided “student services such as tutoring, mentoring, and counseling but left the basic teaching of remedial/developmental courses alone. These programs implicitly assumed that student support is sufficient for student success, even if core teaching is poor” (36). Cross addresses these issues in Beyond the Open Door by analyzing non-traditional students’ prior experiences of learning in relation to the educational programs offered by colleges.

Like Gleazer and Tagg, Cross is interested in institutional and system-wide practices. Her critique, though, focuses on higher education’s rigid adherence to an educational model designed only for traditional students, despite evidence thirty years ago (and now) that droves of non-traditional students enter and then leave postsecondary education within their first year. Even so, Cross did not emphasize retention:

Major energies have been directed toward getting New Students into college and keeping them there. Open admissions, special recruitment of
disadvantaged students, and financial-aid programs are practices in widespread use throughout the country to attract New Students to college . . . Since getting New Students into—and preferably through—college has been the almost single-minded goal, virtually all evaluation of our achievements has been concerned with quoting statistics on increased rates of access and retention. Only recently have a few scattered voices questioned whether recruitment and retention are really the goals. I think they are not. The goal of educators is to educate. We have, however, sold out to the false god of certification, and in our eagerness to get degrees into the hands of New Students we are afraid to ask ourselves whether we are educating them. (1971, 163)

Cross argues for “a new education for New Students” (155-74). She insists that she does not think that new students are simply “less skillful” than others; instead, they approach learning in a radically different way. This point has profound implications for developing effective curriculum for developmental students; Cross advises developmental educators to “provide a new perception of the learning process” (31).

Cross based her analysis of the critical challenge facing higher education—to transform the what and how of learning to accommodate all students’ learning needs—on data from national studies. She discovered that students coming to the academy in the late 1960s and 1970s differed from their traditional predecessors in one critical way: throughout their schooling, in traditional tests of academic achievement based on traditional curricula, they consistently ranked in the bottom third of their class. Low test scores, more than any other available measure including race, gender, and socioeconomic status, separated these New Students from others. Cross anticipated that a continuing emphasis on access programs would bring increasing numbers of what she refers to as “low-ability students” into higher education.

In 1971, most of these New Students—“swept into college by the rising educational aspirations of the citizenry”—were white, although a substantial number were from minority ethnic groups (15). Their fathers worked at blue-collar jobs and most were first-generation students who did not know what to expect from college. Most came from educationally and financially impoverished backgrounds and suffered the effects of low family education levels, discrimination, and poverty. Her analysis also indicated that more than a quarter of these students who did not do well in traditional education came from families where fathers did have college educations.

Fear of failure

Cross uses a striking metaphor to help educators understand what the influx of new students will mean for higher education (Cross 1971, 22). She compares traditional students, who throughout their schooling place in the top third of their class, to strong swimmers who move through the water with relative ease, getting better and increasingly confident with practice. New students are like weak swimmers. Thrown into downstream currents above a waterfall, fearful of drowning, they try to keep from going over. Strong swimmers swim to calm
waters and focus on how fast they are swimming. As Cross notes, these achievement-oriented learners approach learning tasks of intermediate ability with a fifty-fifty chance of being successful: “This approach describes what we ordinarily think of as efficient learning, moving to progressively higher levels of accomplishment in small increments” (22). Weak swimmers, the students at the bottom third of the class academically, are learning at school too, but most are learning how to avoid failure: “For the fear-threatened individual, the task of intermediate difficulty is most likely to be avoided in favor of non-threatening tasks of assured success or of no probability of accomplishment . . . To do something you already know how to do is not learning. Neither is trying something that you cannot possibly do” (168-169).

The students who graduate in the bottom one-third of their class, schooled in methods to avoid failure, also avoid learning. The challenge is to spark students’ curiosity so they will risk learning something a bit beyond what they already know and can do, and will gradually move from accomplishment to accomplishment. Cross points out that “successful remediation programs would need to devote considerable attention to a total reorientation of the students’ approach to learning situations” (26). New students, Cross contends, approach learning differently than their more successful peers.

To change a failure-threatened student into an achievement-oriented learner involves a fundamental change in attitude. It means that the learner must become eager to test himself instead of becoming motivated to find ways of avoiding the test of personal competency. It means that the student must become curious about himself and what he can do instead of being afraid to find out . . . The goal of reorienting the New Student to learning is to change attitudes, but the student must also be given ample practice in learning. (169-170)

Educational programs for “New Students”

But what kind of education should we offer “New Students”? Cross scrutinizes the programs offered to these students and reaches this conclusion.

We are in the grip of a ‘deficiency’ conception of New Students. From nursery school to college, we give more attention to correcting the weaknesses of New Students than to developing their strengths . . . By the time students reach 17 and 18 years of age, their patterns of learning and behaving are much more firmly established than those of four- and five-year-olds, and compensatory programs in community colleges are not going to make many New Students over into traditional students. Furthermore, we have not been able to demonstrate that performance in the traditional discipline-bound curriculum is related to adult success. Why, then, do we try so hard to reach a goal that is probably both unattainable and undesirable? (Cross 1971 57-58)

The deficiency model, as Grubb and his colleagues point out in their recent analysis of instructors’ approaches to pedagogy—based on interviews with people
from 32 community colleges across the country and 257 classroom visits and observations—is far more pervasive than educators imagine.

The conventional approach to teaching often embodies several assumptions about intelligence: that it is relatively fixed rather than malleable, and that it is single-dimensional rather than multiple-dimensional. The notions of relatively fixed intelligence or ability leads to an emphasis on screening mechanisms and prerequisites, with the aim of tracking students based on their perceived abilities. This also fits with the view that students who score poorly on diagnostic tests are deficient, lacking the skills and knowledge that would enable them to score at the right level. The language of deficiency is quite common in conventional instruction, particularly in remedial and developmental education . . . The assessment of deficiency then slides over into assumptions that students are to blame for their deficiencies—that they are stupid, or that they come from intellectually impoverished families and communities—and this reasoning is frequently applied to the “disadvantaged” students who have not done well in school. (Grubb and associates 1999, 31)

Cross introduces her proposal for a new education for New Students by rephrasing a question John Gardner posed in 1961, “can we be equal and excellent too?” and asks, “can we be different and excellent too?” (Cross 1971, 160). She bases her proposal on a three-part functional analysis of the work world: people are needed to work with people, to work with things, and to work with ideas. She imagines that students would develop excellence not in fragmented, course-based curriculum but in one of three spheres with the expectation that they would develop at least minimal competence in the other two. She writes, “The potentially excellent mechanic may need tutoring in English, and the future excellent college professor may need tutoring in the fundamentals of machine repair. Both are handicapped in the modern world without minimum competence in the other’s sphere of excellence” (165). Cross uses the example of an academically successful youth from the upper-middle class to make her case for how a new vision for education would be less skewed in favor of traditional students:

. . . [I]t is intriguing to think about the new perceptions that might be gained as he copes with the intricacies of machine repair . . . discovers that he lacks the vocabulary to know one machine part from another . . . find(s) that while he is trying to use his developed skill in reading the repair manual, the instructor is “moving too fast” in a field that does not depend on verbalization. To add to his difficulties, he finds that his parents are totally unable to help him because that kind of learning is not in their background and the materials for learning are not easily available in the home. In other words, a student who has always been successful in school finds himself “educationally disadvantaged.” (166)

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Addressing students’ approaches to learning

As Cross suggests, faculty can entice fear-of-failure students to risk learning if the environment is supportive and the educational project is interesting enough so natural curiosity takes over. But findings from a series of adult education studies first undertaken in Sweden, the United Kingdom, and Australia (Marton, Hounsell, and Entwistle 1984; Ramsden 1988), reveal a further dimension to how students’ approaches to learning limit possibilities for learning even if curriculum is engaging.

In many of these studies, students read articles, often on controversial public issues, and summarized their understanding. Some students grasped the underlying structure of what they read and the deeper, intended meaning of the writer, while other students recalled scattered details and disjointed points that mixed the author’s ideas with their opinions. These findings, described by researchers as processing that occurs on a “deep level” as compared to processing that skips along the “surface” of the text, led researchers to experiment with how teaching and assessment influence the quality of student learning. After a series of studies, researchers discovered that what students think they are supposed to learn—that is, their understanding of the purpose of learning—influences their approach to learning. For instance, if students have a Trivial Pursuits conception of knowledge (Dahlgren 1984), where how much someone knows is a measure of intelligence, then they will read to collect information to recall later—names, dates, numbers, and discrete facts—since real experts answer increasingly detailed questions that no one else can. If they think learning is about what is known and changes in thinking, then they will be on the lookout for a writer’s perspective and key ideas. This research suggests that to influence students’ approaches to learning, including developmental students, we would need to address students’ conceptions of learning directly, a critical first step before working with students on basic skill development (Malnarich 1994).

Insights from ongoing studies allowed researchers to refine early notions of deep and surface processing levels to the now well-known conceptual distinction between deep and surface approaches to learning (Entwistle 2000). In a surface approach “the student intends merely to cope with course requirements in a minimalist fashion” and “learns by passively reproducing” (10): learning is equated with memorizing; understanding is limited to “question spotting” for tests; and course content is reduced to unrelated, discrete bits of knowledge. In a deep approach “the student intends to understand ideas for himself or herself” and “learns by actively transforming” (10): new ideas are related to previous knowledge and experience; underlying principles and patterns are sought out; evidence is examined in relation to conclusions; and, the logic of an argument is critically appraised.

Approaches to learning and developing basic skills

Experiments done by Ference Marton and Roger Säljö (1984) indicate that the questions instructors typically ask students about reading passages, even those designed to direct students’ attention to deeper understanding, encourage “technification” (50). As Lennart Svensson (1984) points out, skills are techniques that have a functional relationship to approaches to learning.
A study undertaken at the University of Melbourne in Australia (Ramsden et al. 1986) underscores how skill development alone does not challenge the complex relationships between what students think learning is, faculty expectations, how students interpret faculty expectations given their conceptions of learning, and what they actually learn. In the study, faculty and staff worked with students in learning skill groups. They evaluated students’ approaches to learning before and after their experience in these groups. The results are what Marton and Säljö, and then Svensson observed—as I have in work with developmental students. Instructional intervention led to even greater incidences of surface approaches to learning: “students actively and critically extract from skills programmes what is useful to them; ‘what is useful’ is a function of their perceptions of the requirements of assessment and teaching” (1986, 161-62), or their conceptions of learning.

**Approaches to learning and conceptions of intelligence**

John Tagg connects findings from research on deep and surface learning with research on self-theories and academic motivation to provide us with a powerful argument for why we need to explicitly address students’ conceptions of learning and conceptions of intelligence soon after they arrive at college (2003, 48-86). In an academic context, students tend to adopt distinct achievement goals, ones that are either performance-oriented or learning-oriented. Tagg cites the work of Carol Dweck to illustrate the difference: performance goals are “about winning positive judgments of your competence and avoiding negative ones”; learning goals are about increasing competence and deepening understanding (Dweck 2000, 48-49).

Dweck’s research further suggests that students choose one set of goals over another set based on their conceptions of intelligence. Students who adopt an entity theory where intelligence and/or ability is understood to be a fixed and immutable quantity—*you are either smart or stupid, you get it or you don’t*—are more likely to be performance oriented. Students who adopt an incremental theory where intelligence and/or ability is understood to be changeable and contingent—*it takes time to learn, hard work pays off*—are more likely to be learning-oriented.

Dweck concludes that self-theories more than self-confidence influence students’ approaches to learning. Entity-believing, performance-oriented students expect quick results. To experience frustration when learning indicates a lack of ability. Why try? Yet, as Tagg observes:

None of us would be walking or talking—and certainly not reading, writing, and calculating—had we not embarked at an early age on the systematic project of doing things that were definitely impossible for us and repeatedly failing at them for an extended period of time. Those of us who have observed young children learning to walk or talk have noticed that toddlers are so called because they do not fear falling down and often seem to positively enjoy it. Toddlers are all incremental theorists and embrace learning goals with gusto. (2003, 54)
Students who are entity theorists, on the other hand, combine a set of beliefs that undermine our best efforts to promote self-directed, empowered learning.

The CCSSE report quoted earlier notes that “high-risk students appear to be exerting more effort to succeed . . . because they are overcoming significant challenges to attend college” (2002, 9). We learn that many at-risk students come prepared to class, ask questions, participate in discussions, do two or more drafts of a paper or assignment before handing it in, find exams “extremely or quite difficult,” and devote as much time to preparing for class and studying as they do at work (79 per cent of the high-risk group work more than thirty hours per week compared to 6 percent of the low-risk group). They use learning assistance services and are more likely to give high ratings to the importance of tutoring, skill labs, financial aid advising, and career counseling. The more risk factors students face, the more likely they are “to participate in study-skills classes, a college orientation and success course, and organized learning communities” (9). These determined students are found throughout the academy. They tend to be the ones who seek constant and substantive feedback on their work, stick to their studies despite frustration, and appreciate that advances in learning depend on their efforts.

To alter people’s life circumstances before they come to college is a tall order. Still, we can do our collective best to support students’ aspirations once they arrive in higher education.

Endnotes

2. For information on the Algebra Project go to http://www.algebra.org/index.html.
3. As Adelman points out in his study, 60 percent of undergraduates attend more than one institution: “It is not wise to blame a college for superficially low graduation rates for the behavior of students who swirl through the system.”