High Challenge, High Support Classrooms for Underprepared Students

TOWARD A VISION OF **ACCELERATED** CURRICULUM & PEDAGOGY

BY **KATIE HERN** | Director, California Acceleration Project | English instructor, Chabot College
with **MYRA SNELL** | Math lead, California Acceleration Project | Professor of Mathematics, Los Medanos College

LearningWorks

about THIS **PUBLICATION**

This monograph was prepared for LearningWorks by Katie Hern and Myra Snell, co-leaders of the California Acceleration Project. Editorial guidance was provided by Linda Collins and Darrick Smith of LearningWorks, with support from Deborah L. Harrington, executive director of the California Community Colleges' Success Network. We are grateful to reviewers who provided thoughtful feedback on drafts of the piece, especially Pamela Burdman, Nikki Edgecombe, Brock Klein, Mike Rose, and Bruce Vandal.

LEARNING**WORKS**

LearningWorks was founded by the Career Ladders Project for California Community Colleges, the Research and Planning Group for California Community Colleges, and the California Community Colleges Success Network to facilitate, disseminate and fund practitioner-informed recommendations for changes at the community college system and classroom levels, infusing these strategies with statewide and national insights. LearningWorks seeks to strengthen the relationships that offer the greatest potential for accelerating action, including those between policy makers and practitioners, among overlapping initiatives, and across the 112 colleges. LearningWorks is supported by the William and Flora Hewlett Foundation and the Walter S. Johnson Foundation.

ADDRESS 678 13th Street, Suite 103 | Oakland, CA 94612
WEB www.LearningWorksCA.org

design **DONNA CHOI**
photography **DAN FIGUEROA**

REMEDIAL EDUCATION **REFORM**
And The Classroom

Developmental education is under an uncomfortable microscope these days. President Obama has called for dramatic increases in completion of post-secondary credentials, and legislators and policy makers have zeroed in on reform of remedial education as essential to meeting this goal. Four national organizations have called for an overhaul of English and math remediation that includes placing most students directly into credit-bearing college courses; tailoring math remediation to students' chosen academic pathways; eliminating multi-level remedial sequences; and offering less prepared students redesigned accelerated classes or enrollment in a college-level course with additional concurrent support.

The movement to reform remedial education is spurred by three important trends in the national research on community colleges: 1) studies showing that huge numbers of students drop out before making meaningful progress in college, and that the more layers of remedial coursework students must take, the lower their completion of college-level English and math;[i] 2) studies questioning the accuracy of the standardized tests that sort students into different levels of remediation,[ii] and 3) studies showing significantly better outcomes among students enrolled in accelerated models of remediation.[iii]

While the research has clarified key problems in developmental education, and pointed toward promising directions for change, an important question is often missing from the conversation: What does instruction look like in an accelerated class? And how is it different from more traditional approaches to remediation? This monograph articulates a set of core principles and practices for teaching accelerated English and math. In particular, it describes how teachers can support students with widely varying backgrounds and skill levels to be successful in an accelerated environment.

Among those new to the idea of accelerated developmental education, there are some common misconceptions about what it entails. First is that acceleration means doing the same things, but faster, and that many students will be left behind. Second is that the increased completion rates among accelerated students must only be possible because curricular rigor is being "dumbed down," or because quality is being sacrificed to "getting students through" an industrial model of education.

We hope this piece can put to rest what we consider false tensions in the above debate.

> **Teaching accelerated courses** has changed my outlook on student capacity. I learned to trust in students' ability to handle challenges and tackle meaningful academic work. With support and scaffolding, students who place three levels below transfer are able to read college-level, full-length texts; write source-based, argumentative synthesis essays; and develop informed perspectives on complex issues such as gang violence.
>
> *Caroline Minkowski* / English instructor
> City College of San Francisco

The principles discussed here are grounded, first and foremost, in our own practice as community college teachers. Between us, we have more than 40 years of combined experience in the classroom. As an English instructor at Chabot College in Hayward, Calif., I teach an integrated reading and writing course that is one level below college English and open to students with any placement score. Myra Snell of Los Medanos College in Pittsburg, Calif., developed and teaches Path2Stats, a one-semester pre-statistics course with no minimum math placement score that is intended for students pursuing non-math-intensive majors. Both of us have seen that students classified as "underprepared" – including those with very low placement scores – are much more capable than is generally assumed. Rather than "dumbing down" the curriculum, we believe accelerated courses should provide more rigorous experiences than those typical of remedial curricula, and we have witnessed that, under the right conditions, teachers can facilitate rapid growth in students' academic literacy and quantitative reasoning.

Traditional models of remediation assume that students need to start with "the basics" and then build their way up to more complicated "college-level" tasks. Reading is broken down into component sub-skills – vocabulary, recognizing main ideas, making inferences – that are then practiced through workbook drills or online exercises. In writing, students are assumed to need to work on their grammar before writing paragraphs, focus on paragraphs before they can write a short essay, and write about personal topics before they create essays based upon readings. In math, it's assumed that students must first be proficient with a large set of arithmetic and algebraic procedures before they can construct an argument with data. Multiple-semester remedial sequences are the logical result of this way of thinking.

We reject the idea that academic literacy and quantitative reasoning are developed through the linear accumulation of sub-skills. It's not necessary for the basics to be separated out and front-loaded before students can tackle more challenging – and frankly, more interesting – tasks. Instead, underprepared students need practice with college-level skills, content, and ways of thinking. They need to reason their way through open-ended questions on topics that matter. They need to *think*. And if, along the way, we see that they are weak in some of the basics, we need to build in targeted support.

We also believe it's not enough to uphold high standards and then blame students if they don't meet them. We're not advocating sink or swim, or the return of the "right to fail." Our role as teachers is to create classroom environments that support students to meet high academic challenges. Two pedagogical elements are essential. First, as we give students college-level tasks, they need low-stakes opportunities in

THE CALIFORNIA **ACCELERATION** PROJECT

Across California, just 16% of community college students who begin three or more levels below college level in writing go on to complete college English within three years. In math, just 6% of students who begin three or more levels below go on to complete a transferable math course.[vii] And because they are more likely to be placed into the lowest levels of remediation, students of color are disproportionately impacted by these high attrition rates. More than half of all black and Latino students in California community colleges begin three or more levels below college math.[viii]

The California Acceleration Project (CAP) supports the state's 112 community colleges in redesigning their English and math curricula to help more students complete transferable gateway courses in English and math.

CAP Principles for Redesigning Developmental Curricula

1. Increasing completion of college-level English and math requires shorter developmental pathways and broader access to college-level courses.

2. Community colleges must reduce their reliance on high-stakes placement tests, which are poor predictors of student capacity.[ix]

3. Streamlined developmental curricula should include backward design from college-level courses; relevant, thinking-oriented curricula; just-in-time remediation; collaborative, low-stakes practice; and intentional support for students' affective needs.

The California Acceleration Project is led by Chabot College English Instructor Katie Hern and Los Medanos College Professor of Mathematics Myra Snell. It is funded by the California Community Colleges Chancellor's Office through a professional development grant to 3CSN, the California Community Colleges' Success Network, which is headed by Deborah L. Harrington. Additional financial support has been provided through the Walter S. Johnson Foundation, LearningWorks, and the "Scaling Innovation" project of the Community College Research Center funded by the William and Flora Hewlett Foundation.

To date, more than 100 of California's community colleges have participated in CAP workshops, and faculty from 42 colleges have been part of a year-long professional development program focused on teaching new accelerated courses. CAP leaders also have addressed education and policy leaders from more than 40 states and led statewide workshops for eleven states to date.

Early data from CAP pilot colleges show significant increases in student completion of college-level courses, with especially promising results in math. Students in accelerated statistics pathways are completing transferable math courses at at rates more than double those of students in the traditional remedial sequence. A third party evaluation of student outcomes currently is being conducted by the RP Group.

class to practice thinking and communicating in ways that are valued at the college level. Second, it's important to recognize that the emotional side of learning – particularly feelings of fear and academic insecurity – can lead capable students to be unsuccessful, and that community college students are especially vulnerable in this area. Our work, then, is not just teaching math and English, but understanding the affective dynamics in our classrooms and having intentional practices to ensure they don't derail students.

But even with the best pedagogy, community colleges will never see meaningful improvements in college completion if they continue to require students to take two, three, four or even more semesters of remedial coursework. That's why the first essential element we advocate is structural change. Community colleges must reduce the length of remedial sequences and ensure that any remedial preparation required is well-aligned with the students' college goals. No doubt, many students arrive at the open doors of community colleges needing support to succeed in a rigorous college environment. But we agree with the recent national statement arguing that most of them would be better served by enrolling directly in college-level courses with attached co-requisite support (one example: the Accelerated Learning Program at Maryland's Community College of Baltimore County, in which developmental students take college English and an attached support class taught by the same instructor)[iv]. For students needing more extensive support, we recommend one-semester, pre-requisite models developed through backward design – that is, by identifying the skills and knowledge most central to success in the subsequent college-level course and designing the preparatory experience to focus directly on those outcomes.[v]

> "It was developing my **critical thinking**. Not just looking at a formula and learning how to solve it – you know, where does this go, what are the rules?....It's more about evaluating, it's more about the analysis...It's more about understanding how to make a conclusion about the data set."
>
> *Accelerated pre-statistics student*
> College of the Canyons

The following pages present our approach to accelerated curricula and pedagogy in English and math, including five core elements:

Backward design from college-level courses

This design principle addresses the misalignment between traditional remediation and college-level coursework. In English, backward design holds that a developmental course should look and feel like a good, standard college English course, only with more support and guidance. In math, it asks which type of math students need for their chosen pathway, then aligns remediation to those specific college-level requirements – more extensive algebra for students heading toward calculus, and accelerated pre-requisite or co-requisite support for students taking statistics or liberal arts math.

Relevant, thinking-oriented curriculum

An alternative to remediation focused predominantly on correctness in written form or mathematical procedure, this kind of curriculum asks students to engage with issues that matter, wrestle with open-ended problems, and use resources from the class to reach and defend their own conclusions.

"I like that it's challenging. **It makes you think.**"

"Yeah, every time you're doing a homework assignment, it's not just easy stuff. You have to reread whatever we're doing a couple times, and you have to actually critically think about what you're trying to say."

Two students discussing accelerated English course
Irvine Valley College

Just-in-time remediation
An alternative to separating out and teaching discrete sub-skills in advance, this approach provides only the support students specifically need to grapple with challenging college-level tasks. It includes individualized grammar guidance on students' writing and as-needed review of the arithmetic or algebra required to answer intellectually engaging questions with data.

Low-stakes, collaborative practice
In-class activities are designed to give students practice with the most high-priority skills and content needed for later, graded assessments.

Intentional support for students' affective needs
Pedagogical practices are employed to reduce students' fear, increase their willingness to engage with challenging tasks, and make them less likely to sabotage their own classroom success.

The monograph describes each of these elements in greater detail, with illustrations from our own classrooms and from faculty and students at colleges piloting redesigned accelerated courses. Additional information is available through hyperlinks in the text.

We hope that this discussion can help community college faculty move beyond the discomfort of the current policy microscope and become leaders in transforming remedial education on behalf of our students. Policy makers can and should make structural changes to enable more students to complete college-level gateway courses – by changing placement policies so that more students bypass remediation, by limiting the number of remedial levels that colleges can offer, and by ensuring that pre-requisites are actually needed for success in college-level courses. But to be truly successful, remediation reform must also address what and how faculty are teaching.

This is no small task. The approach advocated here represents a significant break from traditional models of developmental reading, writing, and math, which University of California, Berkeley Professor Emeritus Norton Grubb observed have been dominated by "remedial pedagogy: drill and practice on sub-skills, usually devoid of any references to how these skills are used in subsequent courses or in adult roles."[vi] Making change even more difficult is the fact that most of the products on the developmental education market – textbooks, online programs, tests – also are geared toward decontextualized sub-skills.

The work that Myra Snell and I have done in California has shown us that tremendous momentum can be unleashed when teachers are committed to a reform movement. But it also has made clear that when faculty are teaching in a new way, they need support. They need to hear from more experienced teachers to get a sense of what works and what can go wrong. They need sample activities and assignments. They need colleagues with whom they can collaborate and commiserate. They need community.

The current system is clearly broken, and it's time to rethink our approach to students who are labeled "underprepared." We hope this monograph can serve as a resource in the larger reform effort, empowering faculty with a concrete vision of the possible, and a set of principles and practices for helping students meet their educational goals. And we hope it can inspire administrators and policy makers to recognize the magnitude of the change involved and commit to integrating meaningful, sustained faculty development into their reform efforts.

BACKWARD DESIGN
From College-Level Outcomes

Broadly, backward design involves thinking carefully about the outcomes we want for students – what should they know or do as a result of our work with them? Once the end goals are clear, a teacher plans backward for how to assess student performance on those outcomes, and finally, builds activities into the class to support students' learning. It's an alternative to a more traditional approach to planning, which begins with a list of topics to cover, or texts and activities to use in class.[xi]

> "I never ever want to introduce a topic by saying, 'I'm sorry, but we have to cover this. I know you will never use it again once you leave college.' **I don't have to when I teach pre-statistics.**"
>
> *Anonymous faculty member*

We see backward design as a way to address the poor alignment between traditional models of developmental education and college-level coursework. To be "ready" for a college-level course in English or math, less prepared students need practice and guidance in the same things that these courses require. In co-requisite models of acceleration, this principle is structurally built in: Because these students enroll directly in a college-level course, they automatically are focused on college-level tasks, with extra support provided. For accelerated pre-requisites, the developmental course should look and feel like a standard college-level course – with similar content and tasks – but with an understanding that the students need more guidance and in-class support than better-prepared students.

In developmental reading and writing, backward design tends to be fairly intuitive for faculty. It says: Look at what students are asked to do in college English (and perhaps reading- and writing-intensive courses across the disciplines), then have them work on exactly those tasks. If they're going to have to read books and write essays at the college level, that's what they should be doing in their preparatory experiences. If college-level courses are not going to ask them to complete grammar workbooks, or write personal essays about their friendships, then developmental courses shouldn't either. We sometimes describe this approach as "Junior Varsity College English." In this developmental pre-requisite, students play the same game as they would at the college level, but they're not yet as skilled as the varsity team.

FROM **DECELERATION**

A Community College Math Course Three Levels Below College Math

The instructor stands at the board demonstrating the multi-step process for adding fractions. Students watch from their seats, then practice these steps individually or in groups. The instructor circulates to comment on accuracy and neatness. Homework: 15 similar problems to be done by hand with work shown.

TO **ACCELERATION**

A Developmental Math Course One Level Below College Statistics, Open to All Students

In a quiz during Week 3 of an 18-week semester, Myra Snell's students examine data from 189 pregnant women, looking for factors potentially associated with low birth weight. They analyze the data along six qualitative attributes: age, low birth weight, smoking status during pregnancy, history of premature labor, physician visit during first trimester, and mother's pre-pregnancy weight.

Quiz prompts:

(1) Choose a variable you think may be associated with low birth weight. Explain why there may be an association.

(2) Pose a question to investigate that involves the variable you chose and the variable low birth weight.

(3) Create a graph to explore the relationship between the variable you chose and low birth weight. In your analysis, incorporate percentages that provide a convincing comparison that addresses your question.[x]

In math, backward design involves a significant re-envisioning of the curriculum. Instead of requiring all students to progress topic by topic through intermediate algebra, developmental experiences are designed according to the quantitative skills and knowledge required in a student's chosen program of study. An engineering major, for example, needs significant pre-requisite knowledge of algebra to be successful in college-level calculus coursework. An English major, on the other hand, needs very little algebra to succeed in a college-level statistics or liberal arts math course, or in general education courses in other disciplines. Backward design takes what already is standard practice at the college level – students taking different quantitative requirements based on their intended majors – and extends it to the remedial level.

Students in redesigned statistics and quantitative reasoning pathways learn to interpret graphical representations of data they might see in news reports, analyze data to support an argument or make a decision, and discuss the limitations of the analysis. They work on concepts and skills needed for success in the subsequent college-level course (e.g., statistics), and often, a small set of additional topics considered essential to being quantitatively literate,[xii] such as understanding exponential functions and their relationship to interest rates.

Backward design in mathematics yields a curriculum that can look very different from what faculty are accustomed to teaching. For students in math-intensive paths, the curriculum would be algebra-based, typical of a high school curriculum, and similar to the remediation currently offered in community colleges. For other students, there might be little to no emphasis on some topics from the traditional curriculum (factoring a polynomial), expanded attention to other topics (using technology to construct graphical representations of data to make a point), and additional topics never addressed in the traditional sequence (analyzing a two-way table and using conditional percentages to investigate a relationship between two categorical variables, such as the relationship between the smoking habits of parents and teens).

Not surprisingly, this kind of redesign has generated controversy. Some math faculty believe that every educated person should have a solid background in

algebra and that, without algebra, students will never learn to be rigorous thinkers. Most see the purpose of remedial math courses as correcting deficiencies in students' K-12 education. In effect, they view community colleges as enforcers of high school "college preparation" requirements, despite the misalignment of these requirements with many students' intended areas of college study. Like their counterparts at the secondary level, community college faculty often have been wary of "tracking," or directing, some students away from math-intensive fields. They believe that requiring all students to complete intermediate algebra keeps all paths open to them at the college level.

> "**With the right support**, students are capable of doing great academic work! They don't need to start with a simple paragraph. They can write complex essays from the start."
>
> *Anonymous faculty member*

A disciplinary ethnocentrism runs through a number of these arguments. We suspect that proponents might be surprised at how many of their colleagues with graduate degrees in other disciplines do not meet their criteria for what a "minimally educated human being" should know. A playful antidote to this ethnocentrism might be for faculty outside the math department to take the math placement exam with no advance preparation -- the way most incoming community college students do -- and see just how "college ready" they are. It also is worth questioning the assumption that math is the only discipline in which students can learn to be rigorous thinkers.

On the question of "tracking," we share our colleagues' caution about prematurely directing middle school and high school students away from lucrative careers in the sciences, engineering, and other math-intensive professions. However, we argue that this concern is misplaced once students arrive at college, where they choose their own majors. If students decide to pursue a math-intensive field, community colleges should provide whatever algebra review is needed for success in that pathway. But for students in other fields, we need to ensure that the remediation we require is actually relevant and helpful in their pathways. And what about students who are undecided? What if they start out on one academic path, then change their minds? Just as they may need to take additional coursework when switching majors, they may need additional remediation. Ultimately, while respecting the good intentions behind faculty concerns, we argue that the current system of math remediation is a far more insidious form of tracking than what we're advocating. Under the current system, a majority of community college students are being tracked away from a college degree entirely.

At its heart, backward design in math remediation is about the mission of community colleges: providing broad access to higher education for students who might not otherwise be able to attend. Requiring all students to remediate through intermediate algebra – regardless of its relevance to their future coursework or careers – is hard to justify when so many students are dropping out without realizing their dreams. We argue that instead of looking backward, and seeing remediation as a way to enforce *high school* requirements, community colleges need to look forward and organize curricula to give students the best possible chance of reaching their *college* goals.

RELEVANT, **THINKING**-ORIENTED CURRICULUM

> **In the non-accelerated classroom**, I think I focused more on teaching students to eliminate the superficial errors, so students in that class ended up producing a 'prettier' assignment; however, their writing did not illustrate complexity of thought…This was partly due to the formulaic nature of the assignments I used to give (topic sentence should look like this and be placed here, supporting details should go here, etc.) and mostly due to the lack of opportunity for critical thinking in my previous assignments.

Summer Serpas / English instructor
Irvine Valley College

This principle can involve one of the biggest shifts for faculty transitioning from remedial to accelerated pedagogy. Traditional math remediation often emphasizes procedural tasks at lower levels of cognitive demand – for example, using an algorithm to find the equation of a line given two points – with little attention to higher order tasks, like developing a mathematical model to describe a trend in data and using the model to make predictions. In English, faculty teaching remedial courses often spend a great deal of energy scaffolding academic form – organizational structure, quotation format, sentence-level correctness – but less on helping students develop rich, well-informed content for their writing. The shift to a thinking curriculum involves re-envisioning what we ask students to do, and how we use class time.

Myra Snell and I believe that underprepared students are best served by rigorous engagement with issues that matter. In Path2Stats at Los Medanos College, for example, Snell's students analyze data on nutrition to answer the question: "Are children's cereals less healthy than adults' cereals?" In my accelerated English course, students read experiments by Stanley Milgram and other social psychologists to explore the nature of human cruelty. Students should be asked to wrestle with open-ended problems and use resources from the class to reach and defend their own conclusions. They must develop a sense of their own agency and see themselves as able to weigh in on important topics.

This kind of curriculum resolves a concern often voiced by teachers of more traditional remedial classes – the heterogeneous mix of "different levels" of students in the same class. It's true that having a mixed group of students can be a problem if instruction is focused on skill deficits. For example, if class time is spent reviewing subject-verb agreement, or converting fractions to percents, students skilled at this can get bored, and even resentful and disruptive. But the dynamics change when class time is used to engage all students in the same open-ended, interesting challenges, such as debating the ethics of Harry Harlow's monkey experiments,

or analyzing data on automobile accidents to develop policy recommendations for an insurance company.

> When asked to do real writing and reading about important and meaningful topics, **students' motivation skyrockets.**
>
> *Anonymous faculty member*

Higher-level challenges like these unite the class in a shared focus, and students bring different strengths – as well as different needs – to the work. Many of their needs can be addressed through the mixed collaborative environment: weaker readers see how stronger readers made sense of a passage, students who can interpret histograms show others how to do it, and the teacher can share sample work from more skilled students. In addition, the instructor is able to observe where students are having trouble and provide differentiated, "just-in-time" support to help each student learn (discussed more in the next section).

This kind of curriculum capitalizes on the strengths students bring into the room. Students with a weak grasp of arithmetic or algebraic procedure nevertheless have knowledge and innate reasoning abilities that teachers can build upon. In English, students' everyday lives might not require the skillful integration of quotes, but they regularly solve problems and negotiate complex socio-cultural landscapes. Immigrant students, for example, have often spent years translating for their non-English speaking families and moving skillfully between the norms and languages of two cultures, abilities that one Stanford University researcher has argued should be recognized within federal definitions of "giftedness."[xiv]

Bottom line, we believe that, regardless of their mastery of discrete procedures or grammatical rules, students need to enter the world of ideas that higher education represents and be welcomed into its conversations-in-progress. A high quality college education is not about fill-in-the-blank exercises, canned solutions, and memorization without understanding. Developmental education shouldn't be either.

FROM **DECELERATION**

A Community College Reading Course Four Levels Below College English

Directed by their instructor, students take out their introductory reading textbooks (6th-9th grade level) and open to that day's section. Their task: to read a paragraph about tulips in 16th century Holland and then work in groups to label sentences in the paragraph "main idea" or "supporting detail." The groups report their answers back to the class. The teacher notes whether or not the answers are correct. They move on to reading and labeling a paragraph about the U.S. industrial revolution. Homework: Students study 10 words in their vocabulary textbook.

TO **ACCELERATION**

An Integrated Reading and Writing Course One Level Below College English, Open to All Students

Drawing upon Lauren Slater's nonfiction book *Opening Skinner's Box: Great Psychological Experiments of the 20th Century*, students write a four-page essay arguing their positions on an open-ended question. Guidelines include: "Show that you have carefully read the chapters and fully considered the different viewpoints and evidence on all sides of the debate," and "Show you are really thinking about the topic – these are complex questions, so don't settle for easy answers."

What causes addiction?

> Chapter 7 features a debate on what causes addiction. Bruce Alexander argues that drug addiction is not caused by physical dependence; instead, he says, it is a "way of adapting to difficult circumstances" (Slater 161). Other addiction researchers argue that drug addiction is a physical response to the chemicals in drugs (see Slater 162-165). Where do you stand?

Were Harry Harlow's experiments on monkeys ethical?

> Harlow's research taught us about the nature of attachment and what infants need. But in the process, he did a lot of damage to the monkeys in his experiments. Do you think his research was ethical? Do the benefits (knowledge) outweigh the costs (harm to living creatures)?[xiii]

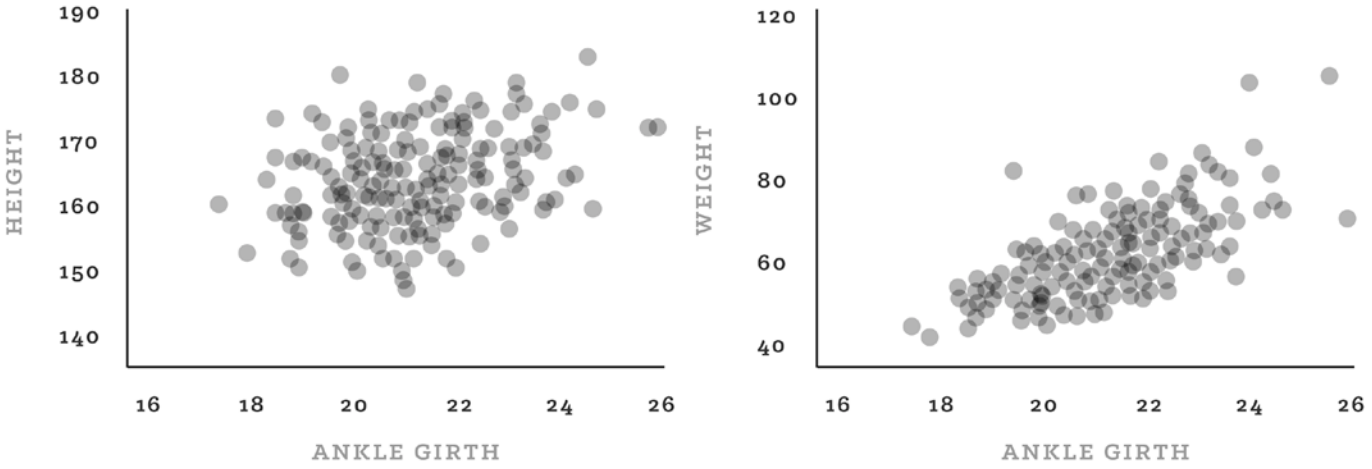
JUST-IN-TIME **REMEDIATION**

Just-in-time remediation is something people understand intuitively, because we regularly experience it in our adult lives. Take, for example, learning PowerPoint. This is a basic skill for many professionals today, but when we're hired at a new job, we don't attend extended trainings on the features of PowerPoint, or make our way from chapters 1 through 24 of the user's manual. Instead, we start our jobs. Then, at the moment we need to give a presentation, we figure out how to use PowerPoint, drawing upon people or resources to address what we need ("*How do I embed a graph?*").

Despite its intuitive logic, just-in-time remediation generally has not characterized developmental reading, writing, and math. In these classrooms, rather than teaching "basic skills" in the service of accomplishing a larger goal, skills are front-loaded and treated as an object of instruction for their own sake.

Good intentions often lie beneath this approach. Teachers can believe that it is unfair to ask students to do anything that they haven't taught them in advance. Or we don't want to overwhelm students, so we start with smaller tasks in the hopes that early success will build students' confidence and their later success. We front-load the component sub-skills and provide a lot of advance instruction because we don't want students to fail.

In teaching accelerated classes, teachers sometimes struggle to let go of front-loading. Before asking students to analyze data on a scatterplot, for example, a math teacher might feel she must introduce all the technical vocabulary and procedures first – providing a lecture on the concepts of slope, the y intercept, the formula for calculating the equation of a line (y=mx+b). The impulse can be so strong that we sometimes don't realize we are front-loading. We just think we're teaching.



Myra Snell's pre-statistics class provides a nice illustration of an alternative, just-in-time approach. In the third unit of her class, in the context of a forensics investigation, students use data to predict features, such as height and weight, from other body measurements. This process mimics the work of forensic scientists who develop and use mathematical models to identify bodies based on skeletal remains. Snell has students look at a series of scatterplots with data from over 250 women. In each graph, a single body measurement – say, ankle girth – is graphed along one axis, and height or weight is graphed on the other. Students use the graphs to determine whether a given measurement is useful in predicting a woman's height or weight. This is the first time they have worked with scatterplots. In her set-up for this activity, Snell provides no technical vocabulary, no formulas, no mathematical procedures. She just wants them to bring their own reasoning to bear. As students work with the scatterplots, they inevitably notice that for some variable combinations – ankle girth and weight, for example – the data tends to cluster in roughly the shape of a line. In those cases, the students are comfortable predicting a woman's weight from an ankle measurement. For other combinations of variables, such as ankle girth and height, the data is more scattered and cloud-shaped, so it is harder to predict height from an ankle measurement. In explaining their level of confidence in their predictions, students intuitively start to draw lines on the graphs and compare them to the lines drawn by classmates. One group's line is steeper, another group's more shallow. But which is better?

This is the point where relevant, just-in-time instruction comes into play. Students have a good grasp of the context, and some preliminary reasoning, and they are primed for more technical tools to refine their answers. Snell then introduces the statistical concept "line of best fit" and provides

> **I put students in groups** and simply asked them to write an organizational outline for their next paper assignment. How would they go about writing the paper: what points would they make, what evidence would they use, in what order would information be presented? I resisted 'telling' them how I wanted it done. I didn't lecture or give any handouts other than the essay assignment....The biggest thing this has taught me is that I do not need to 'teach' everything. Working as a sounding board and questioning their choices is more productive than a lecture or a handout.
>
> *Anna Marie Amezquita* / English instructor
> Moreno Valley College

activities on how to determine these lines for the body measurement data. Embedded within this statistical concept are elements covered in a traditional elementary algebra course – e.g., the formula for the equation of a line – but instead of being delivered as stand-alone procedures two or more semesters before students enroll in statistics, these elements are contextualized inside the higher-level problem. The algebra elicits vague recognition from students – "Oh yeah, I kinda remember this" – but the context enables them to see, often for the first time, why these tools are useful. By holding off on teaching the technical terminology and symbolic forms, the teacher encourages students to focus on making sense of the problem, building schema upon which she can then add more sophisticated tools and thinking.

> **Students' life experiences often far outweigh their math skills.** Therefore, they often have much more to contribute to a 'thinking' curriculum as opposed to a 'skill-based' curriculum.
>
> *Anonymous faculty member*

One sticking point for math faculty involves whether students who have assessed into arithmetic or pre-algebra should be allowed to enroll in an accelerated course. How can students analyze data when they can't even convert a fraction into a percentage? The answer lies in the fact that the vast majority of the skills assessed on placement tests are irrelevant to success in a quantitative literacy course and instead are geared toward success in calculus, which most students will never take. Further, the decontextualized environment of placement testing fails to capture the reasoning students can bring to quantitative problems. For example, when comparing the low birth weights among maternal smokers and non-smokers, students will raise concerns about the fact that one group is larger than the other. This motivates the use of percentages as a scaling mechanism for determining the number of low birth weights if there were 100 women in each group. On a placement test, students might not accurately answer a question about the arithmetic skill of converting fraction to percentage, but in an accelerated class, they figure out how to do the conversion as they work on the higher-level analysis. They might have to guess and check a bit at first, but because the percentage they are calculating now has meaning, it's easier to ensure they have done it correctly.

Faculty that teach English also can have difficulty visualizing a just-in-time approach, especially around grammar: "*There's so much to teach. How do you handle all of that and have students read whole books and write multiple essays*?" Part of the answer is that classroom research has questioned the efficacy of direct grammar instruction.[xv] But beyond that, students' writing shows us that each individual tends to make just a handful of errors, and that patterns of mistakes vary from one student to the next. Students have enough intuitive grasp of the language that they don't need to be taught all of English grammar, including its opaque and alienating terminology. With an individualized, just-in-time approach, our focus is not to "teach grammar," but to help students recognize and correct their own errors.

> When a student is struggling, **try to figure out why**. Don't just assume they can't do it, but figure out what support they need to be able to do it.
>
> *Summer Serpas* / English instructor
> Irvine Valley College

When hearing this explanation, some teachers will insist that their students need grammar instruction because their sentences are unintelligible. While severe sentence issues can indicate that a student is an emerging English language learner who would be better served by an English as a Second Language course, in other cases, a little more diagnostic investigation may be in order. Are students' sentences truly unintelligible, or are our inner English teachers just irritated by the kinds of errors they're making? If they are unintel-

ligible, does their clarity depend upon the topic they're writing about? Are they able to produce clear sentences when describing personal experiences but not when asked to summarize an academic text? Problems that initially look grammatical – such as hard-to-follow sentences –actually can be problems with the student's reading or thinking. The student has difficulty writing clearly about the text because he doesn't understand the text, a difficulty better resolved by collaborative class activities focused on the readings. Or perhaps the student's writing is awkward because he was trying out more complex syntax structures, like using an appositive clause to introduce an author and his ideas. While the student may need guidance to use a particular structure fluently, errors like this are a positive sign of learning.[xvi]

Front-loading often is the product of teachers' professional concern for their students, but it can have the unintended consequence of squandering the energy that is unleashed when you say to students, "Can you figure this out?" (One author calls this "the mating call of the brain."[xvii]) In our accelerated courses, Snell and I have found that when students are analyzing body measurements in the context of forensics, or examining the causes of addiction, they often want to address the basic stuff that's getting in their way. They're motivated to learn how to calculate the line of best fit, or to clarify their thesis statement, because they want to communicate their ideas effectively. That motivation is much less likely when skills are drilled in isolation.

Many students arrive at community college with shaky academic backgrounds, and they need support to meet college-level expectations in reading, writing, and math. Nevertheless, our classes should set students free to read books and reason through interesting intellectual problems. And then, over the course of the semester, it's our job to provide targeted support in the areas where they're having difficulty.

SAMPLE *CLASSROOM* **PRACTICES**

Proofreading Expert Groups

If we don't teach grammar, how can students improve their sentences? Fullerton College English Instructor Jeanne Costello uses the following approach. When students turn in an assignment, she provides individual feedback on their strengths and areas for improvement, including the patterns of error she sees in their sentences. Then, when she gives the papers back, Costello organizes an activity in which each student reviews her editing comments, makes a list of his or her own top three sentence-level problems, and chooses one to work on. Students then work in groups with others who chose the same error, using a textbook to prepare an entry for a "proofreading tips" handout that will be shared with the rest of the class.

Bring Your Own Article

In his accelerated math course, Pasadena City College Instructor Jay Cho often starts class with an exercise he calls *BYOA, Bring Your Own Article*, in which a student describes the data highlighted in a news report of his or her choosing. The activity helps students build basic foundational schema needed for a college-level statistics course and resolve the misconceptions that get in their way. For example, statistical analysis requires that students be able to differentiate a population and a sample, identify the variable from a verbal description of the data, and categorize that variable as a quantitative or qualitative measure. This *BYOA* activity takes just a few minutes, but gives students consistent practice applying this schema and decoding "real life" data presentations as a statistician does. There is, of course, the added bonus that students research things that interest them, resulting in an array of lively topics.

Practice Final

To prepare for the departmental final exam, Yuba College English Instructor Kyra Mello gave her students a practice test with the same format. Students had to read an article and write an essay explaining and evaluating the author's arguments. Mello resisted the temptation to provide advance instruction on how to write it, and instead used students' practice essays to identify areas where they needed improvement. After observing that many students had difficulty accurately explaining the gist of the assigned article, Mello asked the class to examine sample essays from some of the more experienced students and to brainstorm a list of characteristics of a strong summary. "Relying on the knowledge of the class," she said, "we created a checklist for future reference." Students then read and annotated the assigned article together, breaking it into manageable "chunks" and writing a collaborative summary.

Late Work Contract

Melissa Reeve, an English instructor at Solano Community College, developed a new approach to late papers in her accelerated class. In the past, she said, she assumed that late papers were caused by student laziness, inability, or a lack of will, and she responded with the swift penalty of grade reduction. Talking with her accelerated students, however, Reeve found that many late students had been working on their drafts, but simply weren't finished. The multi-source synthesis papers she assigned were more complex than papers these students had done before. As a result, they underestimated the time required, or realized too late that their draft didn't fit the requirements. Their lateness was a sign that they were new to this kind of writing and still learning what it takes to be successful. Rather than punishment, Reeve treated the late paper as a "teachable moment," met with students to discuss their drafts, and had them sign contracts with revised deadlines. The result: students turned in late work, retention increased, and more of her class remained on track to pass because late penalties didn't accrue to larger failure.

Are You Ready to Solo?

An important part of just-in-time remediation is getting an accurate sense of where students are in their learning. To help with this, Myra Snell uses ungraded classroom assessment techniques like *Are You Ready to Solo?* At the end of a lesson or series of lessons, students are given a short list of the learning objectives and asked to rate their ability to perform each objective. How well can you do this? Not at all yet. With a lot of support. With some support. With minimal support. I'm ready to solo! The exercise provides information Snell can use to plan future lessons, and it also helps students develop an important metacognitive habit: tracking their own comprehension and identifying areas for further attention.

LOW-STAKES, *COLLABORATIVE* **PRACTICE**

> **We're focusing** on pair work with a product, not just large group discussion where students who haven't read, or didn't understand, can hide. We are really challenging the students to come prepared and be ready to do something in class and not just to sit there and wait for other, prepared students to do the work.

Melissa Reeve / English instructor
Solano College

When teachers ask underprepared students to do challenging, college-level work, they need to build in a lot of opportunities for practice. These students need space to work through their thinking, try out new vocabulary, see how other students approach tasks, and receive targeted guidance from the teacher. Snell and I view the instructor's role as designing low-stakes, in-class activities that help students develop the ideas, mastery, and confidence to be successful in later, graded assessments.

Focusing on collaborative practice means handing over control. Student activity – rather than faculty instruction – becomes the primary focus of class time, with students discussing the assigned reading in groups, doing in-class writing, analyzing data to make an argument, working on sample problems, and engaging in debate. It's best, too, if the activities are structured so that each student in the room is engaged, rather than just a few vocal students (see "sample practices").

Paradoxically, a lot of behind-the-scenes planning is required to create a student-centered classroom like this. Faculty must carefully consider what they're asking students to practice. Class time is finite, after all, especially in an accelerated curriculum. This means we must focus on the most high priority learning goals, the things that will pay off most in students' work. We also need to ensure that the materials we're providing are appropriate to the tasks: Is the assignment framed around a clear, open-ended question? Do course texts provide rich content students can use to answer that question? Is the data set appropriate for a particular

kind of statistical analysis? Does it allow for meaningful and creative investigation?

Another important part of planning is making sure that each activity builds toward the larger task students will complete – e.g., the formal synthesis essay or culminating project for a unit. For example, if the essay assignment in my course asks students to weigh competing arguments and take a position on the ethics of Harry Harlow's experiments, the classes leading up to the assignment would involve a small group discussion on the parts of the text most relevant to the question, a debate in which teams marshal evidence from the reading to support their viewpoints, in-class writing activities where students summarize and respond to counter-arguments, and a whole-class review of students' draft thesis statements.

> **"I go to the board, and I start to lecture, and it kills the magic in the room...**They're not enthusiastic, they're not paying attention, they're looking at their cell phones....I figure, if I just explain at bit more, it'll be OK. But the more I tried to front-load, the worse it got. And then this kid in the class comes up after...and he goes, 'Now, Terrie, I've noticed that your pedagogical practices have been about us discovering what we need, and I think what happened today is that you failed to trust the process.'"
>
> *Terrie Nichols* / Math instructor
> Cuyamaca College

For our own classes, Snell and I have developed instructional cycles to help us plan for day-to-day activities. In an accelerated English course, the instructional cycle emphasizes multiple opportunities for students to process and engage with the assigned readings – from first reading, to class discussions, to short answer quizzes, and finally to essays synthesizing the texts into each student's own argument. By working with their texts in multiple ways, over several class sessions, students resolve initial misunderstandings and come to know the material deeply, and their resulting papers become rich with ideas and information from what they've read (not with just a few quotes plugged in to satisfy a requirement).

In pre-statistics classes, the instructional cycle features a motivating question for each unit, an open-ended issue drawn from real life that can be answered with statistical data, such as the forensics investigation described earlier. Over the course of the cycle, students move from preliminary, sense-making exploration of the data, to being introduced to relevant statistical concepts and tools (e.g., the line of best fit), to ungraded activities applying those tools to the data and, finally, to a graded project in which they make an argument related to the unit question.

To facilitate this kind of low-stakes, practice-oriented environment, teachers need to have at least some comfort with the presence of errors. After all, students don't arrive already able to do the things we're asking them to do. Our class is where they learn. They need the space to misread a challenging passage, or misinterpret a graph, or express an idea awkwardly, without having their thinking process shut down with a swift, "That's wrong." Of course, teachers need to be attentive to misunderstandings, but it's important not to jump in too quickly with correction. When collaborating with their peers, students often self-correct many initial mistakes, and their learning becomes much deeper than if we had simply provided the right answer. We need to allow students the space for productive struggle.

Our role here is to serve as coaches, circulating and observing as students engage with the course material. We praise moments when students are being especially thoughtful, or using an important skill or strategy, and we offer a question or brief clarification if a group gets stuck. We note patterns we're seeing – e.g., something many students are struggling with – that we can address in closure comments and/or in plans for the next class session. And throughout the process, we try to keep a running metacognitive conversation going, so that students become more conscious of the way they're approaching the material.

It's important to note that, while we need to make space for productive struggle, teachers need to explicitly resolve any

major misunderstandings that arise. To illustrate, during a classroom video in which accelerated students at Chabot College are discussing an excerpt from Paolo Friere's challenging text, *The Pedagogy of the Oppressed*, it's clear that they don't understand what Friere meant by the term "problem-posing education," even after I intervene with guiding questions. A constructive way to close this activity would be for me to name and discuss this difficulty when we come back together as a whole class, saying something like: "I could see that many of you were struggling with what Friere meant by 'problem-posing education.' I think the reason may be that he used the word 'problem' differently than you're used to. You were thinking of 'problem' as a negative – one of you said a 'problem' in education is 'when you don't understand something.' But when Freire says 'problem,' he means an exciting intellectual challenge. He thinks education should give students *more* problems – more intellectual challenges – to figure out for themselves, so that they develop their own critical thinking abilities."

An important part of the teacher's role is to articulate the concepts and connections underlying the in-class activities, and to be strategic about when to offer this as direct instruction. It's often more helpful to provide direct instruction, such as a lecture, as a way to follow up on collaborative activities, rather than to take the more traditional approach of using a lecture to introduce concepts and procedures before asking students to work with them.

To illustrate this idea from the accelerated statistics pathway at Los Medanos College, instructors use a collaborative activity where students summarize temperature data from New York City and San Francisco. Students naturally calculate mean temperatures, but are dissatisfied with the mean as a summary of the data. After all, temperatures vary drastically in New York, but there is little variation in San Francisco, despite the two cities having a similar mean temperature for the year. The field of statistics has a technical concept students can use for this – standard deviation. Before introducing this concept to the class, teachers have students invent measures of variability with data sets that motivate increasingly sophisticated measures. This activity helps students build a schema for understanding the elements of standard deviation, such as measuring deviation from the mean and averaging those measurements. When a teacher then gives a short lecture on standard deviation, students understand the purpose of the tool and are primed to make sense of the complicated formula for calculating standard deviation. They also are apt to use standard deviation more effectively in the future when they summarize and compare data sets.

Just-in-time remediation occurs naturally through the kind of classroom activities and coaching described above. Arithmetic errors that may arise from confusion about the order of operations are addressed with a quick review. In the Friere example, alerting students to the use of the word "problem" helps them become conscious of a stumbling block they will encounter repeatedly as readers – familiar words being used in unfamiliar ways – and build metacognitive awareness. The Freire text also provided opportunities for students to practice using context clues and word roots to figure out unfamiliar words, and to make connections to background knowledge they'd gained from prior readings. In a more traditional remedial classroom, all of these mathematical and reading strategies might be separated out and taught as stand-alone skills. However, in an accelerated environment, the skill-building is prompted by – and grounded inside – students' collaborative engagement with a challenging task.

> "Describing her instructor's approach to the class: "It's kind of like…You dig in and get your hands dirty, however you feel you need to, and I'm here for you to help clarify, to help understand, help get you along better. I like that. **It's more like the instructor is a facilitator**, as opposed to, I'm spewing out all this information that I need you to regurgitate on an exam."
>
> *Accelerated pre-statistics student*
> College of the Canyons

SAMPLE *CLASSROOM* **PRACTICES**

Speed Dating

In my classes, speed dating is a great initial activity to help students process the assigned reading. Students line up in pairs facing each other in rows, and each pair responds to a question about the reading, referring to the text, if needed. The questions ask students to explain key ideas in their own words, give examples to illustrate an author's point, make connections between parts of the text, and perform other tasks that deepen their grasp of the reading and alert them to areas that still need clarification. After a couple minutes, I call out "Switch!" and students shift positions to talk with a new "date," typically tackling a new question with each switch. After we complete multiple rounds, I ask which questions students weren't sure about, and we discuss these as a whole class. The activity gives students a chance to orally rehearse the kinds of tasks they'll do later, when writing. And because everyone is actively participating, every student's brain must be on, and every student is accountable for having done the reading. (What if students haven't done the reading? See "the fess up" in the next section.) Other possibilities for speed dating: Myra Snell asks her pre-stats students to share drafts of their graphical representations of data as a way to hone their thinking and see other ways to approach a question. In both of our classes, we sometimes have students do several rounds of speed dating on the same open-ended critical question as a way to broaden their thinking by hearing multiple perspectives.

Poster Sessions

In these activities, students work in groups to produce a poster representing their response to an analytic task. At College of the Canyons, for example, students played the role of data analyst for an insurance company. They examined a data set on various factors connected to automobile accidents, developed policy recommendations for the company (e.g., that rates should be differentiated by type of car), and made posters representing the data in ways that supported their recommendations (e.g., tables, graphs, short text). In a poster session, each group's poster is hung in a different part of the room, and students circulate and listen to a short presentation by a member of each team, using Post-it notes to offer feedback on something they found interesting or effective, along with a question or suggestion. As the groups circulate, each team's presenter gets better and better at articulating his or her analysis clearly to an audience, and the circulating students practice listening and responding to others' ideas and get insights into how their group could deepen or clarify its own analysis. As a final step, the teams reconvene. Students who circulated are anxious to see the feedback their posters received. Students who presented are interested in hearing what other groups did. In this way, the poster session motivates productive conversation within each group and results in a substantial revision of a group's initial ideas.

The One-Minute Elevator Speech

In math classes, students often can get lost in the details, straying from the big picture. Those who develop the habit of stepping back and asking themselves, "What is the main point here?" can have better recall and a deeper understanding of course ideas. The One-Minute Elevator Speech fosters this habit of mind. At the end of class, students are asked to develop a one-minute summary of the main ideas of the lesson that they could share during an elevator ride with someone who missed class. The last few minutes of class are devoted to speed-dates in which students give their one-minute speeches to each other.

INTENTIONAL SUPPORT

For Students' Affective Needs

> **I've always had a fixed mindset with math.** From 3rd grade to now, I would constantly fail and just give up. I'd get so easily frustrated with anything math-related. So, learning about this fixed mindset and growth mindset has made me stop when I come to a problem that I can't understand at first…I don't just give up like I used to do.
>
> *Accelerated pre-statistics student*
> College of Alameda

Students are placed into remedial courses based upon tests of their math, grammar, and reading comprehension skills. But teachers often find that, while students' skills may need work, the bigger issue is whether they come to class consistently, complete the assigned homework, show up for tests, and turn in their papers. An inquiry into three sections of my own accelerated class at Chabot College, for example, showed that more than half of the students who withdrew or did not pass had earned passing grades on at least one test or paper. The problem was not their ability – they had demonstrated the capacity to do the work – but rather, their academic sustainability – doing enough of that work to pass the course.[xviii]

Inside community colleges, these issues often are framed in one of two ways. There's the pragmatic idea that underprepared students need remedial instruction in "how to be a student," such as a success course focused on time management, note-taking, and general study strategies. And then there's the moral disapproval: "*These students don't care, don't work hard enough, probably aren't cut out for college.*"

Myra Snell and I agree that underprepared students need support to become better students, but we stress that this can and should be contextualized inside more challenging coursework, not separated out and front-loaded. For example, instead of stand-alone instruction in generic study strategies, students benefit more when teachers across the disciplines provide guidance on how to study for their courses. Further, we believe that fear of failure – not moral failure – is the core issue to address among underprepared students. As teachers, we've seen that when we understand the emotional dynamics behind self-sabotaging behaviors, we are much better able to help students stay on track. We believe the answer does not lie outside our classrooms, in add-on success courses or early alert warnings from counseling, but in the fabric of how we teach – our interactions with students, class activities, grading, and policies.

> **We realized very early** when we were designing assignments for the course that we were going to have to grade these very differently…How do you give feedback on student writing when you're giving them, essentially, transfer-level writing tasks, but you're not expecting transfer-level competence? At the same time, how do you give feedback that encourages a growth mindset, where they don't get their grade and say, 'Oh well, I'm gonna drop the class'?
>
> *Bridget Kominek* / English instructor
> Fullerton College

Rebecca Cox's book *The College Fear Factor* has been helpful in our effort to understand and support students' affective needs.[xix] During her qualitative research in composition classrooms, Cox found a pervasive and high level of fear among community college students. Although the students in her study had qualified for college-level English classes, many feared they weren't cut out for college, a fear that is likely amplified among those placed into "remedial" community college courses. Cox found that one of the most common responses to students' fears is to avoid being assessed, such as by not turning in papers, not showing up on the day of a test. If a student fears that he or she is not cut out for college, avoiding assessment becomes a way to prevent – or at least delay – confirmation of inadequacy. Of course, these actions ensure the student won't succeed, but the related idea of "self-handicapping" helps to explain the logic. Not turning in an assignment – or not putting in much effort – can be a way to protect one's self-worth. After all, it doesn't hurt to fail if you barely tried.

> I kind of started getting into this mindset, **Well, if they don't care, I can't make them care**…I really just thought it was laziness. Now I realize…it's just that students are intimidated. They don't want to act like they care because then they would be failures if they didn't succeed.
>
> *Evelyn Ngo* / Math instructor
> College of the Canyons

Another resource we've found helpful is the short article "Brainology" by educational psychologist Carol Dweck about the impact of students' mindsets on their academic performance. Students who have what Dweck calls a "growth-mindset" about their own intelligence are more likely to engage challenge, invest effort, and learn more. But students with a "fixed mindset" see expending effort as a sign of lower intelligence, avoid challenges they fear may subject them to exposure, and ultimately learn less.

We share the above two resources in our classes to reduce the level of fear in the room and to help students adopt a more growth-mindset view of their own reading, writing, and math abilities.[xx] We also share these resources with faculty teaching new accelerated courses in English and math,

since non-cognitive issues – more than the math or English – are likely to be the most significant challenges they'll confront. In our work with faculty, we also try to create a space where we can share, teacher to teacher, ideas for addressing these challenges. We offer approaches that have worked in our classrooms, and we encourage our colleagues to also share theirs (see "sample classroom practices").

> "I need to have a more **'growth mindset'** about my students.... I need to realize that one low grade on a student paper does not mean that student cannot succeed or progress. This was a radical change for me."
>
> *Anonymous faculty member*

Given how many students try to avoid the exposure of assessment, one of the areas we emphasize is building in incentives and accountability for coming to class and doing the work. Sometimes a compassionate teacher's first impulse is to cut students slack. We recognize that they often are juggling multiple pressures – work, family, transportation, poverty, health issues – so we let students arrive late, miss class, or not turn in a particular assignment. With a community college population, some flexibility is definitely necessary: our policies can't be so tight that there's no room to have a setback and recover. However, in our effort to be compassionate, we can end up being enablers of students' self-sabotage. Suddenly, they've missed a third of the class sessions, or they're two papers behind, or they've set off a trend where more and more students are arriving 30 minutes late to class.

> **When we're reading and commenting** on students' writing, to really be focused on praising them for what they can do, rather than being critical and punishing them for what they can't do...really recognizing and noticing where they have good ideas -- maybe they're not structuring them correctly, but they're understanding things about the reading, and they're making connections...[my students] are definitely reacting to the positive comments a lot more than, 'You can't do this, you're doing this wrong.'
>
> Andrea Sanelli / English instructor
> City College of San Francisco

Students can't succeed if they don't come to class and do the work consistently. And a collaborative, practice-oriented classroom environment only is effective when students come prepared. We therefore encourage faculty to have limitations on turning in late work and firm policies on attendance (e.g., a maximum number of absences, conferences with students near that limit, and instructor-initiated course drops if absences continue).

Another area we emphasize is proactive intervention – sometimes called "intrusive intervention" – for students showing signs of difficulty. This might mean, for example, sending the student an email after two absences, following up immediately when someone hasn't turned in work, and initiating an individual conference after a failed quiz. It's an idea that often generates ambivalence at first – faculty can feel that students should act like college students, that it's the students' responsibility to stay on top of their work and come to office hours if they need help, not their responsibility as the teacher to chase students down. We respect this perspective, and we've seen that once students are more firmly established in college, they don't tend to need as much intervention. At the same time, we've seen too many students disappear from our classes over the years, and that a quick email or five-minute conversation can be enough to help a struggling student re-engage. In their self-reflection comments, students have simple language for this approach – they say that the teacher *cares*.

Finally, as faculty transition to accelerated pedagogy, we believe it's important to think carefully about grading. A thinking-oriented curriculum means giving students high levels of challenge, and just-in-time remediation means that students' early work is not necessarily tidy and error free. So, how do we assess students' work? Whatever the specific system faculty use – letter grades, pass/no pass, portfolios, points – Snell and I find the concept of "growth mindset grading" helpful. This might include syllabus policies that allow students to recover from a weak start, the intentional use of re-dos and rewrites to foster growth, feedback that explicitly appreciates the strengths students are exhibiting and guides them on the next areas for attention (e.g., "In your next paper, I want you to focus on..."), and expectations that progress over the term (e.g., a "passing" essay at the beginning might be less polished than a "passing" essay at the end, later assignments might involve higher-challenge, less in-class processing, and more student independence).

Many students come into the community college classroom with a history of uneven, fraught, and even traumatic educational experiences that lead them to mistrust their teachers and, perhaps more important, to mistrust themselves as learners. The dynamics are especially pronounced in developmental classrooms, where students are poised to disappear if it looks like they won't make it. In addressing these issues, it's useful to remember that developmental students are not actually that different from their "college-ready" classmates, or even from the faculty at the front of the room. After all, how often do we seek out activities we're not good at? Don't we all avoid experiences in which we think we'll be exposed as failures? Aren't we all more likely to complete a task when we know we'll be accountable the next time we get together with people? And learn better when we feel seen? Ultimately, we see addressing the affective domain as simply creating a learning environment for human beings.

SAMPLE *CLASSROOM* **PRACTICES**

Asking Students to Respond to Readings about Key Affective Issues

We find it helpful to ask students to write a brief, ungraded self-reflection in response to Dweck's article, an excerpt from Cox's book, and/or the academic sustainability gap website. How do these pieces connect with their own experiences? Do they have a fixed or growth mindset about their abilities in math or English? What are their fears about being in college, and how do they deal with those fears? What might put them at risk for falling into the gap between their ability to perform and the performance they actually sustain over the semester? Through this exercise, students develop greater metacognitive awareness about themselves as learners and the issues that might keep them from being successful. They also see that their teacher is concerned and wants to be an ally in their success. For many students, the result is greater motivation, more willingness to engage with challenging tasks, and greater comfort seeking help.

The Fess Up

In an English classroom that follows the principles described here, problems arise if students come to class without having done the reading – they have nothing to contribute to small groups, or speed dating, or in-class debates, and these activities fall flat. To prevent this, before launching into an activity, I ask students who didn't read to raise their hands and "fess up." No public shaming, just an acknowledgement that they aren't prepared to participate. The fess-up group then sits to the side and catches up on the reading, while the rest of the class does the planned activity. The routine holds students accountable for coming to class prepared and allows the teacher to follow up individually with students who appear repeatedly on the fess-up list.

Perfect Attendance Incentive

A number of teachers have adapted a practice from Chabot College Psychology Instructor Andrew Pierson, who allows students with perfect attendance to skip his final exam. Faculty participating in CAP have found that as long as we build in enough other assessments throughout the semester, this policy doesn't undermine course rigor. It also can dramatically improve student attendance, with between a quarter and half of students qualifying to skip the final. The policy also creates a virtuous circle – by coming to class, students become more skilled and confident with the course material, which helps them perform better, which encourages them to keep showing up.

Say What You Feel Surveys

It's important to provide a space for students to acknowledge and discuss the emotional side of learning. Successful students know that negative emotions, such as frustration or fear or anger, are a natural part of learning, and they have strategies for productive ways of working through their emotions. Because these issues can be especially pronounced in math, some faculty in the California Acceleration Project use anonymous surveys to provide a safe way for students to communicate what they are feeling. Sample questions: On a scale of 1-5, rate your level of frustration with homework this week (1=no frustration, 5=so frustrated that I gave up). What worked well for you this week? What didn't? If appropriate, the instructor can report trends in student answers to the class and explain how he or she plans to make adjustments in response.

Norms for a Positive Classroom Environment

At Yuba College, Kyra Mello engages students in creating class norms. She asks them to write individually about their past learning experiences – positive and negative – and discuss these with a partner. Next, they list on the board the characteristics of positive and negative learning environments (e.g., "a place where questions are welcome" and "a classroom that doesn't feel safe... where there is lots of judgment"). After the students affirm the characteristics as norms for their class, the norms are put onto a class handout and become part of the ongoing conversation (e.g., a weekly evaluation asks students, "Have you fulfilled your role as defined by the class norms handout? Have your classmates fulfilled their roles? Has your instructor fulfilled her role?")

Portfolio Grading

For Solano College English Instructor Melissa Reeve, portfolios have been a powerful way to cultivate a growth mindset in her students. The portfolio enabled Reeve and her colleagues to move away from "mathematical grading." In the past, she said, when each assignment was averaged into an overall grade, she would sometimes find herself telling a student that because of his grades on earlier assignments, it didn't matter how hard he worked, or how much his writing improved, since it was now "mathematically impossible" for him to pass. In her accelerated class, instead of needing an average score in the passing range, students are required to complete all assignments and submit a portfolio with at least two passing essays (which they can revise all the way to the end of term). This shift in Reeve's practice has meant that students can learn and grow all semester, and early struggles don't guarantee later failure.

CONCLUSION

As noted earlier, the curricula and pedagogy illustrated in these pages represent a significant shift from established approaches to remedial education. At a systems level, it assumes that our current community college placement tests provide little useful information about student capacity and that, with the right support, even students with low test scores can meet high academic challenges. We advocate providing support *inside* challenging courses, rather than using standardized tests to keep students *out* of them. Our approach also involves rejecting most of the curricular products on the market, because remedial textbooks and software packages overwhelmingly emphasize front-loaded, de-contextualized skills rather than thinking.

The principles articulated here also represent a major change at the level of individual teachers. For some community college faculty, the principles resonate with how they already teach, or how they would teach if they were freed from the restrictions of their department's multi-level curriculum. These faculty often become early champions for change. For others, the approach represents a shift in their current practice, and they need support to understand how to make it work on the ground. What do these classrooms look like? What kinds of activities and assignments do teachers give? What books do they use? How do they respond when students don't do the homework? As they learn more about the day-to-day of accelerated classrooms, these teachers often become attracted to the idea of a relevant, thinking-oriented curriculum, and to the optimism that students can meet high academic challenges. They often admit that, like many of their students, they're bored by the emphasis on front-loaded sub-skills, and that they'd rather ask students to engage in the kinds of higher order tasks illustrated here. These faculty are good candidates to join the early idea champions in piloting a new curriculum and sharing their experience with colleagues.

For other community college faculty, the approach articulated here can feel like a threat to their professional identity. They might see themselves as reading teachers, and they understand that to mean very specific things, and they don't want to have to teach students to write. They might even worry that integrating reading and writing will mean that they're out of a job, or that their entire department will be subsumed by the English department. Or perhaps they're math teachers who love algebra and believe that all students benefit from studying it. They also might feel that their own mathematics education has left them ill-equipped to teach in a redesigned pathway. It can be harder to make the case for change with these instructors. They believe in what they are doing, feel besieged by the widespread criticism of developmental education, and – sometimes – circle the wagons or mobilize to fight changes that they find threatening.

We are at a critical moment in developmental education. Even a cursory glance at the research makes clear the failures of our current systems, and policy makers are paying attention. In states with more centralized community college governance, such as Colorado and Virginia, remediation is being rewritten for the entire system. In other states, most famously Connecticut, legislators have gotten involved, not only demanding reform but also specifying the shape that reform should take. All of this makes faculty edgy. Bad things can happen when decisions are made by people who aren't in the classroom.

On the other hand, bad things already are happening. Nationwide, community colleges are losing more than 90% of the students who begin in remedial courses three or more levels below college math, and these students are disproportionately under-represented students of color. Our current approach to remedial education is, according to Uri Treisman, professor of math and of public affairs at the University of Texas at Austin, "Old Testament bad, rivers of blood bad."

Instead of blaming the students – "*What do you expect, they can't even add fractions?*" – we need to take ownership of this problem. Poor outcomes in remedial education are not an immutable phenomenon in nature, like gravity or the rotation of the earth. There is no category of human being whose essence is "three levels below." We're not talking about students when we use these labels; we're talking about our own systems. Our placement processes, curricular structures, pre-requisite policies, and pedagogies.

And that's the good news in remediation reform:
We created these systems. We also have the power to change them.

ENDNOTES

[i] The high attrition rates in multi-level developmental sequences was documented in a national study of 57 colleges in the Achieving the Dream initiative:

Bailey, T., Jeong, D.W. & Cho, S.W. (2008, Dec.) Referral, enrollment, and completion in developmental education sequences in community colleges. CCRC Working paper No. 15 (Rev. Nov. 2009). New York: Community College Research Center, Teachers College, Columbia University. Retrieved from http://ccrc.tc.columbia.edu/publications/referral-enrollment-completion-developmental-education.html

The problem also was documented in a California-wide study:

Perry, M.; Bahr, P.R.; Rosin, M.; & Woodward, K.M. (2010). Course-taking patterns, policies, and practices in developmental education in the California community colleges. Mountain View, CA: EdSource. Retrieved from http://www.edsource.org/iss_research_communitycollege.html

Data for each of California's 112 community colleges is available online:

Basic Skills Progress Tracker. Management Information Systems Data Mart. California Community Colleges Chancellor's Office. Retrieved from http://datamart.cccco.edu/Outcomes/BasicSkills_Cohort_Tracker.aspx

[ii] Select recent research raising questions about placement testing:

Belfield, C. & Crosta, P.M. (February 2012). Predicting success in college: The importance of placement tests and high school transcripts. CCRC Working Paper No. 42. New York: Community College Research Center, Teachers College, Columbia University. Retrieved from http://ccrc.tc.columbia.edu/publications/predicting-success-placement-tests-transcripts.html

Hetts, J., Fuenmayor, A. & Rothstein, K. (2012). Promising pathways: Placement, performance, and progress in basic skills and transfer level courses in English and mathematics at Long Beach City College. Berkeley, CA: The Research and Planning Group. Retrieved from http://www.rpgroup.org/resources/promising-pathways

Hughes, K. L. & Scott-Clayton, J. (August 2010). Assessing Developmental Assessment in Community Colleges: A Review of the Literature. CCRC Working Paper No. 19. New York: Community College Research Center, Teachers College, Columbia University. Retrieved from http://ccrc.tc.columbia.edu/publications/assessing-developmental-assessment.html

Also relevant to placement testing is the surprisingly strong performance of low-scoring students in accelerated models of English and math, discussed in:

Hern, K. (2012): Acceleration across California: Shorter pathways in developmental English and math, Change: The Magazine of Higher Learning, 44:3, 60-68. Retrieved from http://cap.3csn.org/files/2011/09/Hern-Acceleration-across-Calif.pdf

[iii] For evidence of the stronger outcomes of students in accelerated models of remediation:

Edgecombe, N. (2011). Accelerating the achievement of students referred to developmental education. CCRC brief No. 55. New York, NY: Community College Research Center, Teachers College. Columbia University. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/accelerating-academic-achievement-students.pdf

Edgecombe, N., Jaggars, S.S., Baker, E.D., & Bailey, T. (2013). Acceleration through a holistic support model: An implementation and outcomes analysis of FastStart@CCD. New York, NY: Community College Research Center, Teachers College, Columbia University. Retrieved from http://ccrc.tc.columbia.edu/publications/acceleration-through-holistic-support-model.html

Hern, K. (2011). Accelerated English at Chabot College: A synthesis of key findings. Hayward, CA: California Acceleration Project. Retrieved from http://cap.3csn.org/2012/02/24/new-report-chabot-accelerated-english/

An additional study of accelerated English at Chabot College is forthcoming from the Community College Research Center. For a presentation of preliminary results, see:

Edgecombe, N. (June 8, 2012). The accelerated alternative: Findings from an analysis of Chabot College's one-semester, integrated reading and writing developmental English course. Annual Conference on Acceleration in Developmental Education. Baltimore, MD. Retrieved from http://ccrc.tc.columbia.edu/presentation/accelerated-alternative-chabot-integrated-english.html

Jenkins, D., Speroni, C., Belfield, C., Jaggars, D.D., & Edgecombe, N. (2010). A model for accelerating academic success of community college remedial English students: Is the Accelerated Learning Program (ALP) effective and affordable? CCRC working paper No. 21. New York, NY: Community College Research Center, Teachers College, Columbia University. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/remedial-english-alp-effective-affordable.pdf

[iv] For us, there are two open questions about accelerated curricula: how to support less-advanced English language learners and how to support students with very low basic literacy (those unable to read at all, rather than the more typical community college student who can read, but might struggle with unfamiliar academic texts). While we recommend that accelerated co-requisite and pre-requisite models become the default approach for most community college students, we recognize that the two populations above may need something different. More study is clearly warranted. In the meantime, however, we stress that the current multi-level remedial structure is not serving anyone well, and that our current placement instruments are unable to accurately distinguish students who can – and cannot – benefit from accelerated curricula. An analysis of 5,000 student records from Chabot College, for example, shows that even students scoring in the bottom 5% of Accuplacer nevertheless passed the accelerated, one-level-below college English course at a rate of almost 50%, and they performed no better in a decelerated course two levels below. We urge caution in the use of placement tests to pre-determine that students cannot succeed and then deny them access to courses where they actually could demonstrate their capacity.

[v] The question of placement, and how we determine which students go into which curricular option, is difficult to answer. As has been noted elsewhere in this document, the standardized placement tests being used across the country provide little to no guidance. Recent research suggests that considering high school GPAs might help more students bypass remediation, and there is a move to integrate affective measures into placement. Other promising directions include the directed self-placement processes used at universities like California State University San Bernadino and San Francisco State University.

[vi] Grubb, N., et al. (2011). Basic skills instruction in community colleges: The dominance of remedial pedagogy. Working Paper No. 2. Policy Analyses for California Education. Palo Alto, CA: Stanford University. Retrieved from http://www.edpolicyinca.org/publications/basic-skills-instruction-community-colleges-dominance-remedial-pedagogy#sthash.gkOnrJX1.dpuf

[vii] Statewide data on students placed three or more levels below a transferable course in English writing and math, Fall 2009-Spring 2012 cohort:

Basic Skills Progress Tracker. Management Information Systems Data Mart. California Community Colleges Chancellor's Office. Retrieved from http://datamart.cccco.edu/Outcomes/BasicSkills_Cohort_Tracker.aspx

[ix] The disproportionate placement of students of color into the lowest levels of remediation is documented in:

Perry, M.; Bahr, P.R.; Rosin, M.; & Woodward, K.M. (2010). Course-taking patterns, policies, and practices in developmental education in the California Community Colleges. Mountain View, CA: EdSource. Available at http://www.edsource.org/iss_research_communitycollege.html

A demonstration of these points is beyond the scope of this article; they are discussed at length in:

Hern, K., with Snell, M. (2010). Exponential attrition and the promise of acceleration in developmental English and math. Perspectives. Berkeley, CA: Research and Planning Group. Retrieved from http://www.rpgroup.org/resources/accelerated-developmental-english-and-math

[x] Snell, M. (Spring 2013). Curricular materials from Path2Stats. Personal communication. Pittsburg, CA: Los Medanos College.

[xi] Wiggins, G. & McTighe, J. (2005). Understanding by Design (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

[xii] The American Association for Colleges and Universities' LEAP Initiative includes a rubric for assessing quantitative literacy: http://www.aacu.org/value/rubrics/index.cfm

[xiii] Hern, K. (May 2013). Window into an accelerated classroom: Readings and major assignments from English 102: Reading, reasoning, and writing (Accelerated). Hayward, CA: The California Acceleration Project. Retrieved from http://cap.3csn.org/teaching/reading-writing-classes/

[xiv] Valdes, G. (2003). Expanding definitions of giftedness: The case of young interpreters from immigrant communities. Hillsdale, NJ: Lawrence Erlbaum Associates, Incorporated. Retrieved from http://books.google.com/books?id=ZigUEm3snCsC

[xv] Hillocks, G. (May 1987). Synthesis of research on teaching writing. Educational Leadership, 44 (8), 71-82.

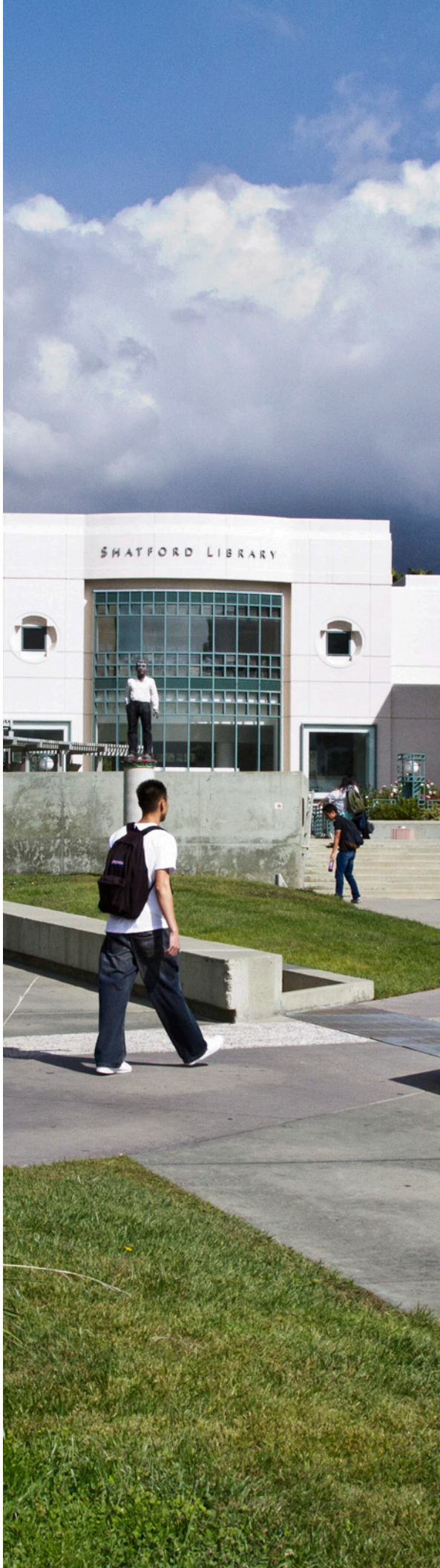
[xvi] Rose, M. (Feb. 1983). Remedial writing courses: A critique and a proposal. College English, 45, 109-28.

[xvii] Smilkstein, R. (2002). We're born to learn: Using the brain's natural learning process to create today's curriculum. Thousand Oaks, CA: Corwin.

[xviii] See Katie Hern's inquiry into the "Academic Sustainability Gap" in her accelerated classes: http://gallery.carnegiefoundation.org/collections/windows_on_learning/katie_hern/index.html

[xix] Cox, R. (2009). The college fear factor. Cambridge: Harvard University Press.

[xx] Video footage of accelerated English and math students responding to Carol Dweck's article "Brainology": http://cap.3csn.org/2012/10/08/accelerated-english-math-students-on-carol-dwecks-mindsets/



LearningWorks
linking knowledge, policy and practice

LearningWorks was founded by the Career Ladders Project for California Community Colleges, the Research and Planning Group for California Community Colleges, and the California Community Colleges Success Network to facilitate, disseminate and fund practitioner-informed recommendations for changes at the community college system and classroom levels, infusing these strategies with statewide and national insights. LearningWorks seeks to strengthen the relationships that offer the greatest potential for accelerating action, including those between policy makers and practitioners, among overlapping initiatives, and across the 112 colleges. LearningWorks is supported by the William and Flora Hewlett Foundation and the Walter S. Johnson Foundation.

ADDRESS 678 13th Street, Suite 103 | Oakland, CA 94612
WEB www.LearningWorksCA.org

Printed on recycled paper by Bacchus Press, Inc., a Bay Area Green Certified Business