



HIGH PERFORMANCE HIGH SCHOOL OVERVIEW



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Introduction

High Performance High School Program provides an opportunity for schools to engage in **a new form of school culture transformation**.

The CSM Course

The CSM Course builds **High Performance** using online, next-generation, adaptive learning that is the first technology to personalize instruction simultaneously in academic, how-you-learn, and how-you-feel/how-you-act realms. CSM holistically builds the math and literacy skills that matter most for success in school, college, work, and life, while also building personal traits such as persistence, focus, and self-efficacy.

The CSM Course also offers a new vision of **college and career readiness**. The American Council on Education (ACE) recommends that colleges accept the CSM Course as **3 semester hours of quantitative reasoning at the college level**. CSM also maps closely to the **Common Employability Skills** framework, which details the fundamental competencies needed in the workplace, and is supported by business and industry associations representing 75% of US job growth

High Performance

- Fluent, deep math and literacy skills
- Problem-solving strategies and mindset
- Active, independent learning
- Persistence and self-reliance
- Focus and attention to detail
- High personal expectations
- Self-efficacy

High Performance High Schools

High Performance High Schools are a new form of culture transformation where everyone in a school community works together to build their High Performance characteristics through the CSM Course.

Who is "everyone"? Well, **everyone**, including the students, principal, teachers, and counselors, and potentially even office, cafeteria and custodial staff, and parents as well!

- **Students** gain excellent math and literacy skills, as well as learning skills and noncognitive/SEL traits that improve performance in all their classes. They also may be able to use the CSM Course for college math credit or placement. They also see High Performance as something that is important for the adults in the school – principal, teachers, and staff – and feel themselves part of a community of learning and learners.
- **Teachers, principals, and other administrators** will be challenged by CSM and gain a shared experience with students, which will lead them to raise their expectations of student performance.
- **Office, cafeteria, custodial, and other non-professional staff** are rarely included in a school's learning community, and CSM can be an important personal development opportunity.
- **Parents** with CSM under their belt can engage more confidently in the school community, can serve as a model for their child (or vice versa!), and can gain new opportunities (CSM serves as preparation for high school equivalency exams, and parents may also earn college credit).

High Performance High Schools can opt to include **Career Strategies**, an additional course embedded in CSM that teaches the skills of lifelong career decision-making, and fills an important gap in high school career counseling.

As more people in a school community complete CSM, the self-efficacy that CSM develops transforms from an individual feeling to a communal, mutually-reinforcing belief in possibility and success. Ultimately, the success of a High Performance High School comes from a **shared sense of purpose and goals, effort and excellence, accomplishment and pride**.

The CSM Course and CSM Certificate

What is the CSM Course?

The CSM Course is a roughly one-semester self-paced online course that builds High Performance: **These High Performance skills, mindsets, attitudes, and traits are among the most important factors for school, college, work, and life success.**

- college-level quantitative reasoning
- applied literacy
- problem-solving strategies
- the ability to learn on your own
- attention to detail
- persistence and self-reliance
- high personal expectations and an "I'll knock it out of the ballpark!" attitude
- self- efficacy

Solve the following problem in your head without paper or a calculator:

If 99.5% of keyboards DON'T have keys that stick, 1 in how many DO have keys that stick?

While this problem is approximately 7th grade by Common Core, only about 5% of all adults and 15% of 4 year college graduates can solve this problem.

The math skills focus on college-level quantitative reasoning, and include skills that are challenging for most college graduates (see Appendix C, and the box to the left). CSM is not Common Core aligned, but is comprised of skills that everyone should know, and is designed so that every student performs at A-level – that is, on every skill, they must repeatedly score 100% on mostly fill-in-the-blank questions.

CSM is different from most adaptive learning (ALEKS, Cognitive Tutor, MyFoundationsLab, etc.) in that it is measuring and responding not only to students' academic issues, but also to how they try to learn and to

their frustration, distraction, attention to detail, and other issues as well. CSM uses hundreds of techniques from social and educational psychology to address these issues.

At the heart of student success is self-efficacy, and again CSM brings many techniques to bear. For example, when a student successfully completes a skill, CSM will point out that only 35% of 4-year college graduates and 15% of all adult in the US could do that skill! Student stop thinking they are struggling because they "aren't smart", and start realizing that through hard work they can master problems that are hard for everyone.

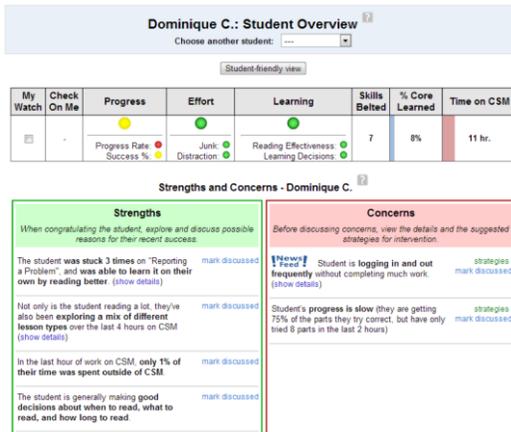
For more information, please see Appendices A & B, or visit www.csmlearn.com/product/course

A Stanford Research Institute evaluation of educational technology with low-literacy students showed that, compared to programs like ALEKS and MyFoundationsLab, CSM showed larger math and literacy gains, with higher student engagement.

Who created the CSM Course?

CSMlearn is a mission-driven Public Benefit Corporation and Certified B Corporation, created "to empower people around the world to reach their full potential in their education, in their careers, and in their lives, being particularly mindful of those who are underserved".

CSM's teacher (coach) role



Rather than the teacher being a “skills fireman” racing around to give personal or small group subject-matter lessons (reducing student self-reliance and persistence), CSM recasts the teacher as a “coach”. In CSM, **it's the students' job to learn skills on their own, and coaches help students learn both from their challenges and their successes, build better learning strategies, and develop ways to deal with frustration.**

The coaching Toolkit provides continuously updated insights into students' learning strategies, behaviors, meta-cognition, and affect, which are also summarized in 2 to 4 strengths for every student, and 1 to 4 concerns.

Each of the concerns is accompanied by brief suggestions how to disentangle the possible causes for the concerns, as well as potential interventions.

Note that teacher/coaches do NOT need to be math teachers: The CSM Course is about much more than math, and in any case, the teacher does not need to be a subject matter expert – remember, it's the students job to learn the skills on their own.

CSM+ Courses

Because CSM is highly adaptive, some advanced students will complete CSM in as little as 15 hours or less. For those students, CSM+ Courses, available at no charge, will help develop college level problem-solving and thinking skills across multiple domains: math intuitions, quantitative social science, logic, and more.

Career Strategies

Career Strategies takes advantage of the self-efficacy built by the CSM Course to help students explore their career paths and prospects. While most career counseling has an immediate goal of choosing courses, a college, or an occupational goal, CSMlearn's Career Strategies, optionally taken as interludes within CSM, **develops the skill of lifelong career decision-making:**

- the difference between a career and a job
- the importance of always thinking about your career, and not just at transition points
- that credentials and job history may get you a job, but performance on the job is what gives promotions and a career trajectory
- that happiness is more than income (and you should know what a living wage is), and involves other factors like purpose and mastery.

In high school, students get 4,000 hours of academic instruction and often only minutes of career counseling. Practical, uplifting instruction placing education and work in the context of life is something that all students deserve.

Career Strategies also provides a structured interview process that elicits a **student's "assets" – academic, job history, personal and professional** – from formal, informal and life activities, so that students can see themselves as a person of value with a future of opportunity.

For more information, visit www.csmlearn.com/product/CareerStrategies

College and career readiness

CSM has been awarded a recommendation for college credit from the American Council on Education (ACE). Founded in 1918, ACE is the major coordinating body for all the nation's higher education institutions, representing more than 1,600 college and university presidents and more than 200 related associations nationwide (see www.acenet.edu/credit for general information, and www.tinyurl.com/CSMACrecommen for information on the CSM recommendation). To colleges, ACE CREDIT® looks like transfer credit from an accredited college, and like such credit, it's accepted on a case by case basis.



The CSM recommendation is for **3 semester hours of credit in quantitative reasoning**. This credit has a number of different possible benefits, depending on the college and program/major:

- It can serve as **college credit**
- It can serve as **math placement** into college (e.g. potentially in lieu of ACCUPLACER)
- It can **satisfy the math requirement for some postsecondary programs** (e.g. for a one-year certificate program, or an AAS community college degree)

Once again, this depends on the college, and CSMlearn will work with you to explore what this means for your students (e.g. creating Articulation Agreements with local colleges).

In addition, CSM is aligned with the **Common Employability Skills** framework, which has been adopted by major national business and industry associations as the applied knowledge and personal, people, workplace skills that are needed by everyone in the workforce – across industry sectors, business functions (finance, production, sales, administration, etc.), and frontline to senior managers. For more information, see www.tinyurl.com/CESframework.



The Center for Energy Workforce Development, which prepares people for employment in the electric/gas utility industry, has chosen CSM as the key foundational course, and we are in discussion for similar purposes with other industry groups representing over 25% of jobs in the US.

It should be noted that businesses' interest in CSM is not centered solely on its math and literacy, but rather its unique ability to both develop and certify attitudes, behaviors, mindsets, and more that are critical in the workforce and represented in the Common Employability Skills framework. Indeed, the same CSM Course that your students will take is also taken by corporate managers and executives, including the PhD chief engineer of a Fortune 500 manufacturing company and the CEO of Firehouse Subs (a billion dollar corporation with 20,000 associates) and his VPs! See Appendix C for a survey from a recent cohort of health insurance frontline workers through senior managers.

The CSM Certificate

On completion of the CSM Course, students are eligible for the CSM Certificate, the first certification of general High Performance. The CSM Certificate includes lifetime biometric verification by colleges and employers, and is increasingly recognized as an industry credential.



Implementation

CSM can be taken on **any internet-connected device**, including smartphones, tablets or notebooks, and has low bandwidth requirements.

CSM is **generally a semester-long class**, but due to its adaptive nature, some students take more than a semester, and other take less. Those who finish quickly can progress to the CSM+ Courses for the rest of the semester, which builds advanced problem solving and critical thinking. Some students with low English language skills, low math or literacy (CSM can handle as low as 3rd grade math and 4th grade literacy), or with mild learning, reading, or other disabilities, may need to take CSM over a longer period of time, or they can supplement in-class time with time at home or before or after school.

While CSM is **optimally taken in a blended learning classroom**, students may take CSM independently at school or at home, interacting with coaches regularly through email, texting, CSM's internal messaging system, or by other means. And CSM can be used **at multiple places within the secondary school curriculum**, including as preparation for algebra, as a math elective, problem solving, or high school/college preparation course.

We strongly urge CSM **not be used only for credit recovery or similar remedial purposes** – CSM will very strongly help these students, but if CSM is known only as a remedial course, it creates an all-lose situation: if the student struggles, they'll be struggling at a remedial course; and if they succeed, their success is tainted by the perception that the course is remedial. Having a broad range of students – as well as teachers! – taking CSM removes any possible stigma.

Benefits of High Performance High Schools

The benefits to the students are discussed above, but what about the benefits to teachers, counselors and administrators, to non-licensed staff, to parents, and to the community as a whole?

Teachers, counselors, administrators

For teachers, counselors and administrators, CSM is a challenging experience that will benefit them personally – remember, the same CSM your students take has also been taken by corporate managers and executives with advanced degrees. While the skills that everyone needs are different, the High Performance characteristics are of universal value. Furthermore, by taking CSM alongside the students, teachers and principals will have a better understanding of what students are capable of – that is, all of them are capable of A-level work on rigorous material when given time and supports.

In addition, it's very meaningful to the students to see CSM Certificates for teachers and principals on the wall. This makes clear that CSM isn't just something for the students to do ("eat your broccoli!"), but rather that CSM is challenging for everyone, and of value for everyone.

In addition, the Career Strategies course provides a common language for encouraging meaningful career conversations within classes and between all adults and students.

Non-professional staff

CSM serves as a professional and personal development opportunity for non-licensed staff, and they can also earn college credit. Working with others in the High Performance High School brings them into the school learning community, deepening their engagement.

Parents

CSM provides a unique opportunity for parents and students to work together on an educational program, supporting each other and cheering themselves on together.

CSM is also of huge value to parents of lower educational background, providing the skills for a high school equivalency test, or serving as a stepping stone into postsecondary education – potentially with college math credit under their belt!

The school community

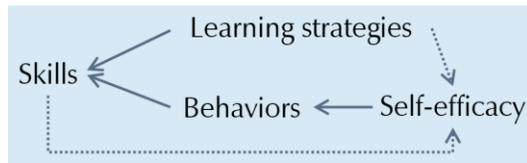
High Performance High Schools provides a shared sense of accomplishment and self-efficacy – it's not about just what the students have done, it's about what everyone in the learning community has done together. And in outreach to the larger community (including employers) the school can wear with pride: "We're a High Performance High School!"

Next Steps

Please visit www.csmlearn.com/HighPerformanceHighSchools to sign up for a webinar for more information and to have an opportunity to ask questions. Afterwards, we'll send free registrations for up to 6 teachers and administrators at your school.

We look forward to exploring the possibility of a High Performance High School with you!

Appendix A – CSM’s next-generation adaptive learning



- CSM teaches math, literacy, and problem-solving **skills** that truly matter in education and work. CSM personalizes learning with the Goldilocks Principle: students are directed to skills that are neither too difficult or simple, but “just right”, where they work hard, but are generally successful.
- CSM teaches **learning strategies** and meta-cognition – e.g. deciding what lessons to read, when to read them, and how deeply to read them; accuracy in self-assessment of when you know the skill; planning and goal-setting; an exploration mindset; and more. For example, CSM provides multiple lessons (procedural, conceptual, multiple solutions, worked out examples, etc.) for every skill, and monitors how students try to learn as well as their personal success in learning, and then responds appropriately.
- A student without good **learning behaviors** won’t consistently employ their learning strategies – such behaviors include attention to detail, conscientiousness, persistence, self-reliance, and more. One way that CSM addresses these is that when students are frustrated, they often hit the Submit key rapidly or enter junk answers, or alternatively escape to Facebook or other websites. CSM monitors these behaviors and guides students to more successful interactions.
- Student behaviors are related to personal high expectations, growth mindset, intrinsic motivation, and most importantly, **self-efficacy**: the belief that you can succeed when you set your mind to it. Without self-efficacy, when a student hits a roadblock, their suspicions of likely failure are affirmed, resulting in poor persistence and resilience. CSM addresses these issues with many methods taken from educational psychology and behavioral economics.
- There are many feedback mechanisms within the process. For example, when students are successful at acquiring skills, their self-efficacy and intrinsic motivation improve. Additionally, if a student has good learning strategies, they feel more in control and their self-efficacy improves.

Current state-of-the-art adaptive learning systems (Pearson, ALEKS, Cognitive Tutor, Knewton, etc.) personalize only the student’s path through the skills. CSM is the first adaptive learning system to personalize all aspects of learning – skills, learning, behaviors, affect – in order to develop the virtuous cycle of personal effectiveness and HIGH PERFORMANCE that results.

Importantly, the purpose of education and training isn’t simply to acquire skills, but to become a **better learner** (e.g. with solid learning strategies and meta-cognition) and a **better student** (with good behaviors and positive self-identity). That is, CSM attends to all aspects of learning, building high performing people who will be successful at school, college, work and life.

Brief description of aspects of CSM’s next-generation approach

CSM analyzes student answers to determine the thinking error

Even when the answer is fill-in-the-blank, CSM analyzes the student input in order to determine the student’s specific thinking error, significantly speeding the learning process.

CSM makes high level interpretations about the student every 10 minutes

Every 10 minutes, CSM analyzes the last 2 hours of student work and creates a series of high-level interpretations of student strengths and concerns, which CSM conveys directly to the student

through the computer interface, as well as communicating to CSM coaches.

CSM gives frequent and meaningful positive feedback

In most learning systems, positive feedback to the student is surprisingly rare and rote. In contrast, CSM constantly provides meaningful positive feedback. For example, even if a student is stuck on learning a skill, CSM can compliment them on how they've tried to learn – on the lessons that they read, on their persistence, on their high degree of focus, on how they handle frustration, and more.

CSM asks meta-cognitive questions to produce people who think about their learning

CSM teaches meta-cognition to students – i.e., thinking about learning. At key times, CSM asks students to reflect whether they know the skill that they're working on (e.g. "Do you now know how to do this skill?" "Do you understand what you did wrong?", etc.). CSM checks to see how accurate they are in answering these questions, and provides intervention for poor meta-cognition.

CSM monitors and responds to issues in learning strategies and performance traits.

Most adaptive learning programs focus on cognition, while CSM recognizes that the key issues for most students are motivation, attitudes, behaviors and feelings. To provide personalized interventions, CSM continuously monitors student behavior – putting "junk" into the system, rapidly hitting the submit key, looking at other windows (e.g. email or Facebook), giving up quickly, etc. CSM interprets student data every 10 minutes, and intervenes directly or through the coach.

CSM deals with frustration as a prerequisite to persistence

In most classes, teachers intervene quickly when they see frustrated students. In CSM, however, persistence is a key goal, and there is no such thing as persistence without frustration, and teachers shouldn't short-circuit it. CSM monitors student frustration, but only intervenes (directly or through the coach) when frustration appears ready to "boil over".

CSM requires an extremely high level of mastery/competency

In education, "competency" usually means 60-70% on a multiple choice test. In CSM, most problems are fill-in-the-blank, and students need to get 100% right on a page before they proceed to the next skill, teaching students three things: what A-level work is; that they're personally capable of A-level work; and finally, the joy of mastery, allowing them to develop intrinsic motivation.

CSM ensures durable mastery

Most learning systems place a checkmark for a skill as soon as the student shows initial competency. In CSM, a student earns a yellow belt (karate metaphor) when they first gain 100% mastery. They must then show mastery over weeks to then earn their red and later their black belt.

CSM deals with learned helplessness

Many students experience "learned helplessness" -- when they get stuck, they just put their pencil down. They assume the issue is with themselves, thinking: *"I can't do this, and everyone else probably can – I'm really dumb. If I try, I still won't be able to do it and then I'll feel worse, so I won't even try."* One of CSM's many interventions for this is that after a student learns a skill, CSM indicates its difficulty – e.g. "Only 20% of all adults and 40% of college graduates could do that problem". Now the student thinks: *"I can't do the problem not because I'm stupid, but because it's hard. If I spend 5 minutes on it, I can usually do it, and then I'll be doing things most people can't do."* CSM protects students from learned helplessness, and gives them space to try hard things.

Appendix B – Teacher Perspectives

The following three testimonials come from two teachers and one administrator working with very challenging student populations (turnaround high school; opportunity youth program; an alternative high school diploma program).

Haidee Halvorson

Math Coordinator, Montbello Legacy High School (Denver, CO)

"I am currently math and science facilitator at Montbello High School. I have over 10 years experience in math intervention programs from 3 – 12th grade. For the past 6 years, my experience has been with at-risk youth. Montbello is an urban Denver Public Schools high school with an extremely challenging student population – 85% of students are free and reduced lunch, many students are minority, undocumented and/or otherwise at-risk, and about two-thirds of the students at an unsatisfactory level on the state proficiency test and a quarter are below-basic. Currently the Montbello area has a 49% drop out rate. For many of our students, we have had little success with any math intervention.

We introduced CSM for 11th and 12th graders in a pilot this fall with an "average" selection of students, and remarkably, the majority of students made substantial progress on CSM – including many who started at very basic math and literacy levels. The consistent feedback from the teachers has been that CSM makes the students work hard – it doesn't let them off, and it doesn't let them guess. Yet instead of frustrating the students, they appear to enjoy working with it.

...the unanimous feelings of the math teachers involved in the program is that students are learning in ways they haven't before... From what we see within the CSM teacher interface, about two-thirds of the students are making satisfactory to excellent progress, and the remaining third working hard to compete with their classmates on their progress. CSM is extremely exciting to me in its potential role in building not only the math skills of students, but also their general interest in academic work, and their ability to learn. I see broad use of CSM within this population.

CSM is very different from the other computer-based systems that I have seen – it is not narrowly competency-based, and it addresses the deficits that many struggling students have both in their feelings about learning as well as the learning strategies that they use. I strongly believe that this is sensible direction – giving our teachers more information about these aspects of students, and guiding their interventions, is an important tool for teachers. This will also be of particular benefit for those teachers who need professional development with intervention or more generally in dealing with struggling students."

Kim Hughes and Sara Millman Silva

Co-coordinators, YouthBuild Charter School (Compton, CA)

"We have approximately 15 students that are actively using CSM. Our original goal was to be able to utilize this program to give our young people the necessary skills to be more successful whether they chose to start working, go to college or the military. Because we are a project-based charter school serving youth 16-24 (who come to us with huge deficits in their knowledge base), we hope to be able to use this program to fill in the gaps in their ability to critically think and problem solve. We hoped that it would improve not only their math literacy but reasoning skills.

CSM has exceeded our expectations. An example of what this program is capable of doing is the story of one of our students, Jose A., who is 17 years old, has been in and out of juvenile hall, has attended multiple high schools and has only completed 40 out of 200 credits needed for graduation. Jose came

to us with limited academic abilities, but with an interest in learning. During his fourth or fifth day working with CSM, we were having technical problems with our WIFI, so he worked at my computer which allowed me the opportunity to observe his behavior. I watched as he read and re-read a question, made some calculations on his hands, selected the answer and then cautiously pressed “next” to see if he had made the correct choice. He immediately received feedback from CSM that he had indeed answered the question correctly and he gave himself a fist pump and said quietly “Yes”. His confidence has soared using CSM and to date he has completed more than 50% of the program content. He is now helping other students when they get stuck on a question! How could you ask for a better outcome?

So many programs out there promise improved learning outcomes and rarely deliver results. From our point of view as educators and administrators, the CSM program not only delivers excellent outcomes, it gives us the opportunity to have these ongoing small teachable moments with students to help strengthen their basis skills and reasoning abilities. The programs monitoring and feedback capabilities are quite stellar. We are extraordinarily happy with what we are experiencing and our students are improving their skills and feeling not only challenged but empowered in their learning.”

Vincent Briley

*Program Manager, Ohio Department of Education Adult Diploma Program (ADP)
College Pathways Programs, Cuyahoga Community College (Tri-C)*

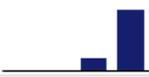
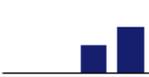
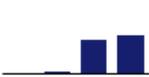
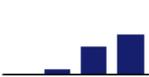
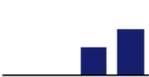
“We have enrolled over 300 ADP candidates in CSMlearn, who have collectively spent over 30,000 hours to improve their reading comprehension, mental mathematics and computer literacy. More importantly, CSMlearn has provided an elegant mix of online adaptive learning experiences to improve the self-directed learning of our 300-plus ADP candidates, who are re-engaging their academic promise to meet their career and college readiness goals.”

Note that of the CSM completers, without any external incentive or impetus, 28% self-registered for associate degree programs at Tri-C, indicating very high self-efficacy. And of those, over 70% have either completed their degrees or have persisted for multiple semesters. One example of those students is Brian R., a high school dropout who, after completing the ADP program, enrolled at Tri-C, became a Mandel scholar (an academy within the college for leadership development), and graduated with an AS in Applied Science.

“CSM helped me in a lot of ways. It helped me get back into good study habits and scheduling time for homework, and it definitely helped me prepare for both the ACT WorkKeys assessment and Accuplacer. I always struggled with English but CSM helped me improve my skills and I tested into college level English, I never thought that would happen.”

Appendix C – Survey results from a surprising source!

The same course that your students will take is also taken by corporate managers and executives – there is only one CSM Course! The following are results from the initial cohort of a CSM implementation in a medium-sized health insurance company. The cohort had 47 people, of whom about 25% had a post-graduate degree, 25% had a 4-year college degree, 20% had an associate degree, and 30% had a high school diploma, with positions ranging from frontline workers to senior managers.

	strongly disagree	disagree	agree	strongly agree	
I found parts of CSM challenging	0%	0%	17%	83%	
I found CSM motivating -- I wanted to complete it	0%	0%	20%	80%	
CSM was a worthwhile experience for me	0%	0%	27%	73%	
I learned a lot from CSM	0%	0%	37%	63%	
Having worked on CSM, there are more tasks that I can tackle	0%	3%	45%	52%	
I feel more prepared for further education	0%	7%	38%	55%	
I feel more excited about further education	0%	0%	38%	62%	

While CSM can be taken by nominally remedial students, it is NOT a remedial program!