



CSM LEARN
High Performance, for everyone

Current education and workforce strategies aren't materially improving skills outcomes, employment or equity. This white paper presents a practical, turnkey, community-based, community-wide initiative that can be implemented at minimal cost in a handful of years. The goal is a community transformation rooted in shared purpose and goals, commitment and effort, accomplishment and pride.

HIGH PERFORMANCE COMMUNITIES

Creating thriving communities
by building a
culture of success

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An overview

The problem

Progress in postsecondary attainment is largely stalled, while most workforce development programs affect small numbers of people and don't show up in macro employment statistics. The concerns about an education and workforce system unable to meet 21st century employer needs, or to enable people to get living-wage jobs, seem no less urgent than they were a decade ago.

Transformation framework

At **CSMlearn**, we've developed a small-footprint transformational intervention called **High Performance Communities** that addresses some of the most urgent education and workforce issues, building on the following concepts:

- For the most part, **efforts have been directed at the wrong outcomes**. Instead of narrow academic and job-specific skills, the focus should be on **high performance characteristics** that are the **key factors for individual success in education, work and life**, and are skills and traits that employers desire for all employees.
- Individuals need the **skill of life-long career decision making** to empower them to think strategically about their career paths and trajectories, as well as knowledge of how to build assets both on the job and through education that will empower them to succeed.
- The **unit of change is the community as a whole**, not a school district, college, after-school or workforce development program, or a thousand other disconnected entities and programs. Approached as a system, a community functions as a powerful social network that can galvanize action, coordinate efforts, recognize key credentials, and celebrate accomplishment.
- The effort can't be about other people: "them". In order to gain broad commitment and to leverage community spirit, **it needs to be about everyone: "us"**. Thus, efforts need to include both those in school and college and those at work, blue- and white-collar workers, those without a high diploma and those with a college degree, the well-to-do and the poor and underserved.

High Performance

- College-level quantitative reasoning
- Applied literacy
- Problem-solving
- The ability to learn new skills
- Attention-to-detail
- Persistence and self-reliance
- High personal expectations
- Self-efficacy

High Performance Communities (HPCs)

The above framework is embodied in HPCs, which leverage the unprecedented characteristics and power of **CSM** to build equitable, community-based, community-wide initiatives.

The **CSM Course** teaches High Performance using next-generation adaptive learning technology that personalizes instruction simultaneously in academic skills, learning-to-learn and how-you-feel/how-you-act. Independent research shows CSM to have superior outcomes to gold-standard educational software, and the same course has been used from 9th grade students to corporate executives. The CSM Course is not just about teaching skills, it's about **making people into better learners, optimistic about and empowered for success**.

The **CSM Certificate** is the first certificate of generalized High Performance, which encompasses performance essentials that are both needed for college success and that employers value in all employees. HPCs use the CSM Certificate as a new market signal of High Performance to create a self-sustaining supply-and-demand model in which **demand** comes from employers who give hiring preferences for job



candidates and colleges that provide credit/placement advantages, resulting in **supply** from education and workforce training providers who want their graduates to get jobs and get into college.

As examples of demand, the American Council on Education Credit Recommendation Service (ACE CREDIT®) has issued a recommendation for the CSM Certificate to receive **3 semester hours of credit in quantitative reasoning** at the associate/lower-division baccalaureate level, and which with some colleges may also be used for college placement. In addition, CSMlearn is partnering with the Center for Energy Workforce Development – the developers of the Common Employability Skills Framework supported by business and industry associations representing 75% of job growth – for use as the frontend for electric/gas utility training, and CSMlearn is in discussions with other industry associations representing over 25% of the nation’s workforce. Coupled with CSM’s use by corporate managers and executives, these are unusually compelling indicators of postsecondary- and career-readiness that provide a concrete sense of the demand potential for potential HPC partners.

Complementing CSM, the *Career Strategies* course builds an internal career coach within students by teaching the **skill of life-long career decision-making**: thinking about career often and not just at career transitions; building professional and personal assets; that careers aren’t about getting jobs, but earning promotions; that life satisfaction is about more than income and involves autonomy, mastery and purpose; and that careers usually involve multiple changes in direction, and that’s OK.

The key to a HPC is that it involves not only students and frontline workers, but **everyone in the community, including community leaders**: elected officials, college administrators, corporate executives, nonprofit directors, religious leaders should all take CSM to establish the CSM Certificate as a valued credential and to frame the effort for people of all backgrounds: that is, it’s about “us”.

HPCs are in development in a variety of communities of different size and characteristics. The implementation is staged, starting with the *Spark* phase, in which a key local partner – a workforce intermediary, a community college, city officials – take and vet CSM and commit to being a lead partner. This is followed by the *Ignition* phase, where additional community leaders and organizational partners are recruited, and instructional and communications infrastructure is developed with significant help by CSMlearn. Finally, the community as a whole engages in a *Challenge* phase, where large numbers of people take CSM in schools, colleges, adult education, workforce development, and incumbent worker training. A typical goal is for approximately 10% of the adult population (roughly 60,000 in a population of a million) to earn CSM Certificates within 3-5 years.

High Performance Community characteristics and benefits

HPCs address some of the most pressing issues in education and workforce, **in scale**, requiring **minimal new funding** and very low ongoing costs, **no new policy/legislation**, with the potential for **rapid results**. The key resources needed for the establishment of a High Performance Community is **social capital and the power of convening**, which are widely shared by elected officials and community leaders. CSMlearn has built an integrated suite of tools and assistance meant to make HPCs as **turnkey** in operation as possible.

HPCs focus on **empowering individuals** that yes, does involve some academic math and literacy skills, but also the ability to learn, an understanding of the need for attention-to-detail, a belief in their ability to succeed at and to do A-level work, and finally an awareness that getting a job is just the beginning, and that continued self-reflection and high performance fuels promotions and a career trajectory.

Finally, key to High Performance Communities is that the CSM Certificate is both **universally attainable** and **universally useful** – characteristics that allow it to be shared across the community, bringing a wide diversity of people together in **shared purpose and goals, commitment and effort, accomplishment and pride**. This is a community that we would all want to live in.

Appendices

- A** – An independent evaluation of CSM
- B** – Health insurance company implementation
- C** – CSM’s next-generation adaptive learning
- D** – Testimonials

Appendix A – The TABLE study (an independent evaluation of CSM)

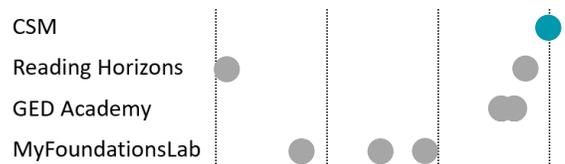
The TABLE study, published in June 2017, was conducted by Stanford Research Institute (SRI International) at the behest of the Joyce Foundation in order to determine the effectiveness of educational technology in adult education. Five educational technologies were compared:

- CSM (referred by a previous name, Core Skills Mastery)
- MyFoundationsLab (Pearson)
- ALEKS (McGraw-Hill)
- GED Academy (Essential Education)
- Reading Horizons (Reading Horizons)

Murphy, R., Bienkowski, M., Bhanot, R., Wang, S., Wetzel, T., House, A., Leones, T., Van Brunt, J. (2017). *Evaluating Digital Learning for Adult Basic Literacy and Numeracy*. Menlo Park, CA: SRI International.
<https://www.tinyurl.TABLEstudy>

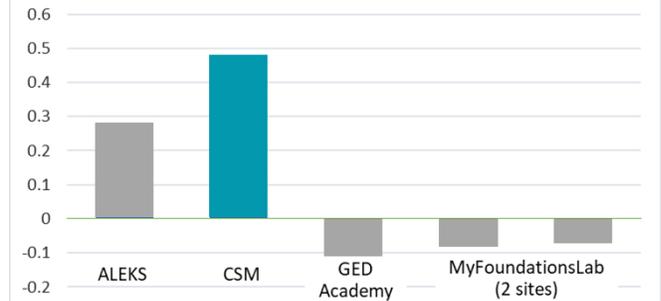
CSM showed the largest reading and language gains, outpacing even literacy-only programs like Reading Horizons.

Reading and Language Effect Size



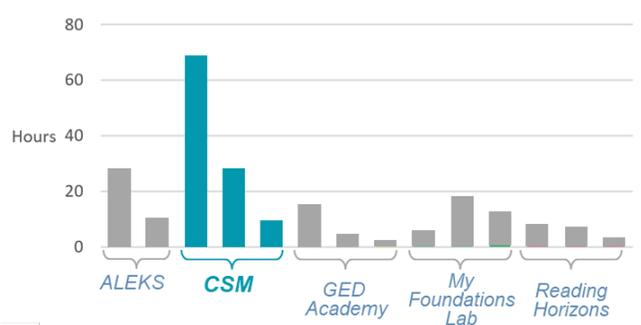
CSM showed the highest gains relative to classroom controls for math instruction, outpacing even math-only programs like ALEKS.

Math gains relative to classroom instruction



Students engaged far more with CSM than the other products

Median time spent on program (by site)



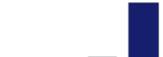
Appendix B – Survey from CSM Certificate-holders in a health insurance company

A mid-sized health insurance company

The following results are from use of CSM at a mid-sized health insurance company, with students ranging from frontline employees to senior managers, with the following educational backgrounds:

- 25% had postgraduate degrees
- 25% had bachelor's degrees
- 20% had associate's degrees
- 30% had a high school diploma

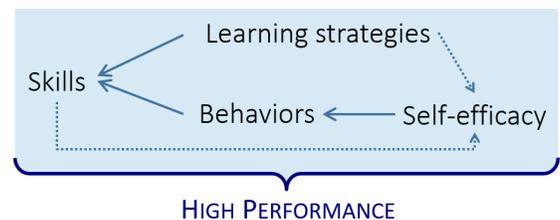
Note: all these users take the same CSM course, also taken by adult education students with low literacy.

	strongly disagree	disagree	agree	strongly agree	
I enjoyed CSM	0%	0%	43%	57%	
I found parts of CSM challenging	0%	0%	17%	83%	
I found CSM motivating -- I wanted to complete it	0%	0%	20%	80%	
CSM required a high level of focus	0%	0%	13%	87%	
CSM was a worthwhile experience for me	0%	0%	27%	73%	
CSM made me more careful	0%	0%	37%	63%	
CSM improved my math sense, math skills, and math confidence	0%	3%	28%	69%	
CSM improved my reading skills	0%	13%	33%	53%	
I am better at figuring out my own mistakes	0%	3%	43%	53%	
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%	

Appendix C – CSM’s next-generation adaptive learning

- CSM teaches math, literacy and problem-solving **skills** that truly matter in school, college, work and life -- many of these skills (mental math, text scanning, “logic” problems) are rarely taught in most curricula. 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 can succeed.
- 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.
- 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. An example of CSM approach 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 usually reflect **self-efficacy** (the belief that you can succeed) are related feelings. E.g., when a student who doesn’t have self-efficacy hits a speedbump, this affirms their suspicions of likely failure and they show very poor persistence. CSM throws the kitchen sink of educational psychology and behavioral economics at these affective and self-identity issues.
- CSM includes many feedback mechanisms. E.g., when students are successful at acquiring skills, their self-efficacy, feeling of belonging, and intrinsic motivation improve. Additionally, if a student has good learning strategies, they feel more in control and their self-efficacy improves.

All these factors are embedded in the virtuous cycle of High Performance depicted to the right. Current state-of-the-art adaptive learning systems personalize primarily with regard to academic skills, while CSM personalizes instruction as well in learning strategies, behaviors, and self-identity.



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 feelings and self-identity). If we attend to all these aspects of learning, we will build people who will be successful at school, college, work and life.

Brief examples 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 it's 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.

CSM coaches teach students how to learn

Most teachers focus exclusively on teaching students academic skills. For example, in most blended learning classrooms, the teacher is a “skills fireman” rushing around to respond to students who need help – who will in the future raise their hands 5 minutes earlier to get a private lesson. In CSM, however, the most important lessons are self-reliance, persistence and self-efficacy. Instead, CSM coaches primarily help students learn how to learn on their own, building performance traits (self-reliance, persistence, attention-to-detail, etc.), developing a more positive self-identity, etc.

CSM supplies coaches with highly strategic information

To help coaches focus on learning to learn and performance traits, CSM's Toolkit provides coaches with continuously updated actionable information. While teacher interfaces for most learning systems are simply a checklist of skills, CSM's Toolkit monitors student learning strategies, reading effectiveness, frustration levels, distractability, and more. These observations are converted into a prioritized list of major student strengths and concerns, suggested urgent interventions, and more.

Appendix D – Testimonials

Don Fox

CEO, Firehouse Subs

Note: Don and several of his VPs and senior managers have earned their CSM Certificates.

I must say, it was a rewarding experience to complete the program...

CSMlearn provides a valuable tool for assessing and strengthening the proficiency of employees at all levels of the organization. As an employer, one can have absolute confidence that a team member who has successfully completed the CSM course will have a solid foundation upon which to build their job-specific knowledge and skills. If allowed to permeate an organization, it has the potential to affect the team culture, and strengthen the foundation of the enterprise. The team at CSMlearn has put together a great program that will benefit not only a company, but society as a whole.

Debbi Perkul

Senior Workforce Development Strategist, University Hospitals (Cleveland)

I was introduced to CSM while several of our employees were doing their Adult Diploma program at Cuyahoga Community College. I was incredibly skeptical of the learning program but when I saw what our employees were doing and witnessed their success in not only the mastery of the skills of CSM, but then saw their completion of their High School Diploma, after multiple failures of the GED, I was hooked! Seriously, not to be too dramatic, but our employees have changed since doing this program.

Dr. Marcy Fetzter

Principal Consultant, DecisionWise, Leadership Intelligence

Faculty: Organizational, Leadership, Strategy, Marriott School of Business, Brigham Young University

I am a Principal Consultant of DecisionWise. Our company offers leadership and organizational development services to a wide variety of companies both here in the US and around the world.

I and another executive at the company decided to take CSM in order to understand its potential application in our consulting practices. From our personal experiences, we believe that the skills that CSM teaches and assesses are not simply career-readiness skills, but are rather leadership skills that are important to corporate managers and executives, as well. It is a program I recommend frequently to leaders to enhance their critical thinking abilities and decision-making skills. I believe that CSM is a unique product, and has wide applications in the business world. And unusually, it should find use across positions, from the front line employee to manager or executive positions.

Haidee Halvorson

Math Coordinator, Montbello High School (low-performing school in Denver, CO; 49% dropout rate)

...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. 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.