DEEPER LEARNING

For Every Student Every Day

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EXECUTIVE SUMMARY

A survey of chief executives conducted by the The Business Council and The Conference Board makes clear the priority on work skills.[1] Work ethic is the clear winner. The next four priorities describe the demands of the new workplace—teamwork, decision-making, critical thinking and computer literacy. The "3 Rs" come next on the priority list.

As Tony Wagner notes in his most recent book, *Creating Innovators*, there is often a mismatch between what is taught and tested and what is required by the new economy. Wagner suggests the skills required for work, learning, and citizenship are converging. "Schools aren't failing and don't need reform." Instead, says Wagner, "we need to reinvent, re-imagine our schools."[2]

About twenty years ago, hundreds of people began that re-imagining—they launched new schools and networks. Ten of those school developers, profiled in this paper, continue to support the progression of schools where students graduate with the skills and dispositions that college admission boards and CEOs seek.

While the need for career and citizenship preparation grows as the economy becomes more demanding and our country becomes more diverse, this decade represents an opportunity to significantly improve the preparation of American students. The implementation of common college- and career-ready standards, the shift to next-generation assessments and the prevalence of affordable personal digital devices create the conditions for a national shift to personalized learning. The development and adoption of new tools and school models that blend the best of face-to-face learning and personalized online learning represents a historic opportunity for improvement and reconsideration of priorities.

In many cases, a decade of standards-based reform lifted expectations and improved options, but had the unintended consequence of narrowing the curriculum. Compared to current states standards, the Common Core State Standards (CCSS) adopted by most states incorporate critical thinking, effective communication, and working collaboratively. The new common standards don't imply or require complete standardization. Rather, they create the opportunity to develop engaging and personalized learning experiences for every student, every day.

Implementing new standards and digital learning models represents a significant challenge, but it also represents an opportunity to create schools that work better for students and teachers—and society as a whole. More broadly, there is an opportunity to create systems of schools that empower social mobility and prepare young people for civic contribution. Taking full advantage of the historic shifts underway requires a reconsideration of learning goals, pedagogical models and the basic structure of our learning institutions.

It is no longer a question of academic success or work preparation or civic contribution, but rather a combination of all of these. We need to create engaging opportunities for all young people to develop the knowledge, skills and dispositions necessary to thrive in the information economy and in diverse communities.

The William and Flora Hewlett Foundation explains, "Deeper Learning is an umbrella term for the skills and knowledge that students must possess to succeed in 21st century jobs and civic life. At its heart is a set of competencies students must master in order to develop a keen understanding of academic content and apply their knowledge to problems in the classroom and on the job."[3]

Six Deeper Learning Competencies:

In an effort to better define Deeper Learning, the Hewlett Foundation has identified six Deeper Learning competencies that are essential to prepare students to achieve at high levels and succeed in college, career and civic life:

1. **Master core academic content**. Students develop and draw from a baseline understanding of knowledge in an academic discipline and are able to transfer knowledge to other situations.
2. **Think critically and solve complex problems**. Students apply tools and techniques gleaned from core subjects to formulate and solve problems. These tools include data analysis, statistical reasoning, and scientific inquiry as well as creative problem solving, nonlinear thinking and persistence.
3. **Work collaboratively**. Students cooperate to identify and create solutions to academic, social, vocational and personal challenges.
4. **Communicate effectively**. Students clearly organize their data, findings and thoughts in both written and oral communication.
5. **Learn how to learn**. Students monitor and direct their own learning.
6. **Develop academic mindsets**. Students develop positive attitudes and beliefs about themselves as learners that increase their academic perseverance and prompt them to engage in productive academic behaviors. Students are committed to seeing work through to completion, meeting their goals and doing quality work, and thus search for solutions to overcome obstacles.

PROFILED SCHOOLS.

In the summer of 2013, American schools had the opportunity to nominate themselves or others for consideration as a Deeper Learning School. Responses from dozens of schools exhibited strong alignment with the Hewlett Foundation's Deeper Learning competencies. School leaders filled out detailed questionnaires and the Getting Smart team conducted interviews to gather additional information such as classroom examples and student success stories.[4]

Twenty schools were selected with the goal of presenting a diverse national distribution of new and improved schools, rural and urban schools, district and charter schools and schools that debunked common myths about Deeper Learning. While the schools are diverse in their composition, they share a common purpose—to give all students the opportunity to learn in a Deeper Learning environment.

These schools systematically engage young people as scientists, writers, producers, inventors, collaborators and problem solvers in ways that provoke inspired learning and valuable preparation. Most are high schools—where Deeper Learning has most often been lost to courses and credits, uninspiring experiences, and multiple-choice tests.

PURPOSE & OUTLINE.

The purpose of this paper is to highlight how each of these schools is working to promote Deeper Learning. Examples illustrate how these schools are leading the way.[5] Personalized, blended and Project-Based Learning are key strategies for promoting Deeper Learning.

The second half of this paper takes on common myths about these goals—namely that Deeper Learning costs more, requires superstar teachers and is only for high performing schools and communities with a history of high rates of college attendance.

In addition to the paper, Appendix A offers two-page profiles of each school we selected for inclusion in the Deeper Learning school project that act as complementary resources to the report's findings. Appendix B offers the Hewlett Foundation's profiles of its Deeper Learning Networks. Appendix C contains a document produced by the Hewlett Foundation that describes in detail the Deeper Learning competencies and includes student demonstrations to explain each.

We hope that this project is seen as another step in bringing Deeper Learning to every student. We hope that reading about these schools and their success will challenge misconceptions and inspire action. We hope that we can find ways to continue to learn from one another. We hope that you will share your success stories with us.

We also hope that this paper offers something for policymakers who are looking to create space for Deeper Learning to thrive. It is important for schools, districts and networks to acknowledge the role of local, state and federal policies in the implementation of Deeper Learning. It is equally important for policymakers and influencers to acknowledge the impact of policy decisions on schools.

CONCLUSIONS.

Bringing Deeper Learning to every student will necessitate shifts in policies related to student assessment, staffing, school funding, teacher preparation and professional development and more. Often, it is the elimination of existing policy barriers that can create the necessary policy space for educational innovation to thrive. For example, Deeper Learning can more easily be catalyzed with the elimination of policy barriers around notions of age cohorts fulfilling seat time requirements while accumulating required credits.

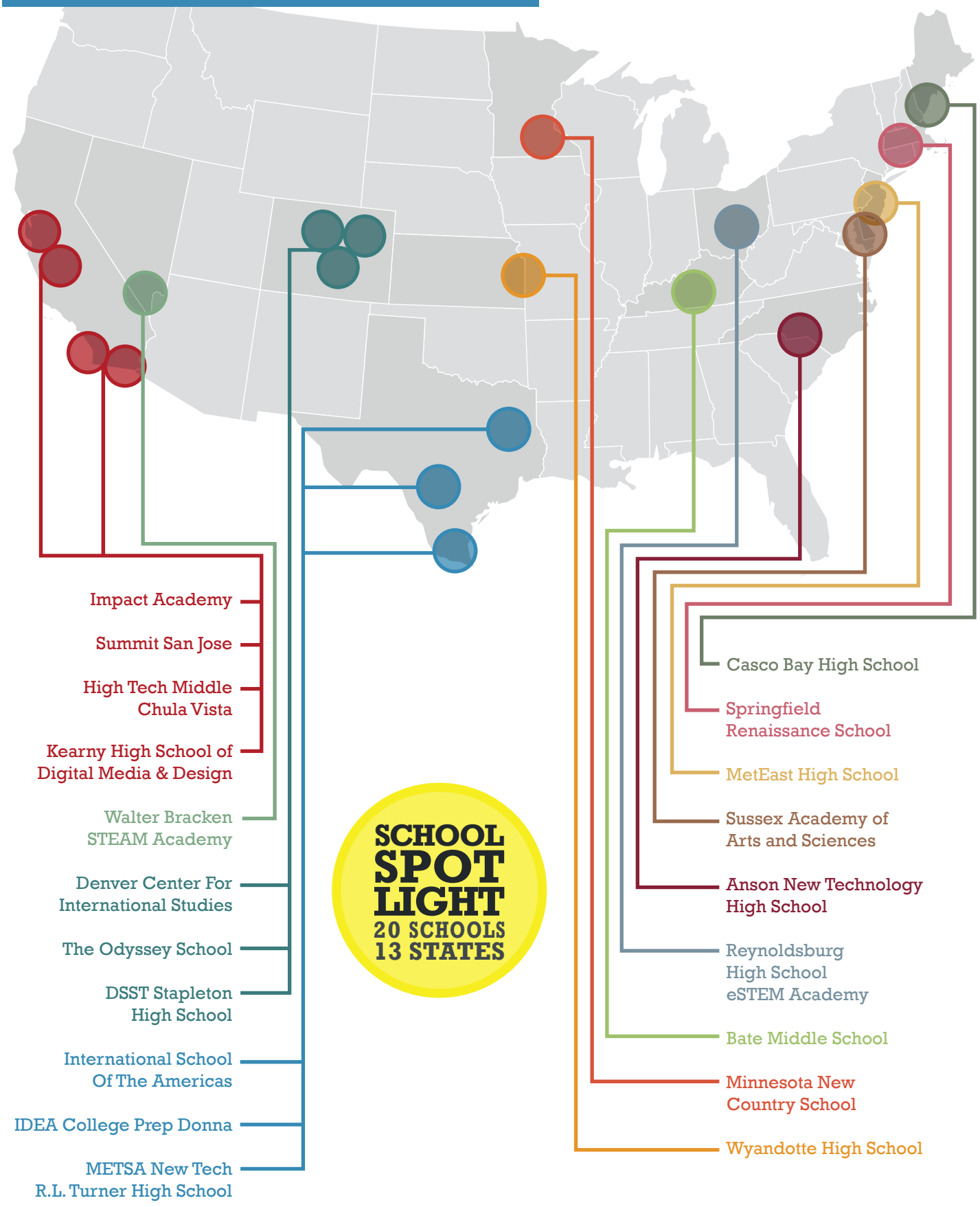
"Towards A New End: New Pedagogies for Deep Learning" co-authors Michael Fullan and Maria Langworthy identify four fundamental barriers that stand between the theory and practice of Deeper Learning, including inadequate development of the following:[6]

1. Policies and system-level strategies that enable diffusion;
2. Accepted ways of measuring deep learning;
3. Adoption of new pedagogical models that foster deep learning; and
4. Knowledge of how students adopt deep learning practices.

In order to keep us moving toward the goal of Deeper Learning for all, we need to fill these knowledge gaps. We can do so by collecting and disseminating examples of promising practices, creating opportunities to learn from one another, challenging misconceptions about Deeper Learning and then creating the conditions for success in our own communities.

The transition to CCSS and personalized digital learning create a historic opportunity to consider ways to improve educational equity and graduate students who are better equipped for college and career. We found twenty schools that provide a good starting point for a system-wide evolution to Deeper Learning.

Map of Deeper Learning Profile Schools



DEEPER LEARNING FOR EVERY STUDENT EVERY DAY

DEFINITIONS

In an effort to build a common vocabulary the authors offer these definitions for terms used throughout the paper and accompanying profiles.

21st Century Skills: Refers to a broad set of knowledge, skills, work habits and character traits that are believed—by educators, education innovators, college professors, employers and others—to be critically important to success in today's world, particularly in collegiate programs and modern careers. Generally speaking, 21st century skills can be applied in all academic subject areas, and in all educational, career, and civic settings throughout a student's life (Adapted from: http://edglossary.org/21st-century-skills/).

Authentic Learning (assignments, projects & tasks): Refers to a wide variety of educational and instructional techniques focused on connecting what students are taught in school to real-world issues, problems, and applications (Source: http://edglossary.org/authentic-learning/).

Block Scheduling: Class scheduling in which students have fewer classes per day, which is common in middle and high schools (e.g., four versus the traditional seven). Classes are usually longer periods of time than normal (e.g., 90 minutes).

Capstone Project: Also called a capstone experience, senior exhibition, or senior project, among other terms, a capstone project is a multifaceted assignment that serves as a culminating academic and intellectual experience for students, typically during their final year of high school or middle school, or at the end of an academic program or learning-pathway experience (Source: http://edglossary.org/capstone-project/).

Collaborative Learning Technology: Technology that allows rich collaboration through group interactions and projects.

Higher Order Thinking: A concept of education reform based on learning taxonomies such as Bloom's Taxonomy. The idea is that while certain types of learning require more cognitive processing than others, they also have more generalized benefits.

Learning Expeditions: Students learn by doing, getting connected to their communities and learning the value of service. Results are demonstrated through products that are presented to a student's school community, and assessed via rubric. Students also learn how to think critically, solve problems and collaborate—the kind of Deeper Learning skills that will help them to succeed in college, the workforce and society.

Learning Targets: Provide specific direction for both teachers and students by building a clear understanding of the target knowledge.

Pedagogy: The art, science, or profession of teaching — reflects a style and set of choices made about a sequence of learning experiences. Pedagogy reflects content, activity, and assessment. It's the way you teach.

Playlists: Similar to iTunes, playlists provide a way to share web-based content - videos, game units, simulations etc. — with students, in a sequence of learning experiences.

Student Portfolio: A compilation of student work assembled for the purpose of evaluating coursework quality and academic achievement, creating a lasting archive of academic work products, and determining whether students have met learning standards and requirements for graduation and grade-level promotion (Source: http://edglossary.org/portfolio/).

Proficiency-Based Learning: Refers to systems of instruction, assessment, grading, and academic reporting based on students demonstrating mastery of the knowledge and skills they are expected to learn as they progress through their education (Source: http://edglossary.org/proficiency-based-learning/).

Performance-Based Assessments: Real or authentic task given to a student to demonstrate mastery. Usually written, oral, or problem solving exercises.

Learning Pathway: Refers to the specific units or courses, academic programs, and learning experiences that individual students complete as they progress in their education toward graduation (Source: http://edglossary.org/learning-pathway/).

Online Learning: The ability to learn anytime, anywhere, anyplace from a tablet or other Internet accessible device.

Common Core State Standards (CCSS): A consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them succeed. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers (Source: http://www.corestandards.org/).

Digital Learning: Any instructional practice that effectively uses technology to strengthen a student's learning experience.

STEM: The focus of Science, Technology, Engineering, and Mathematics.

MOOC: Massive Open Online Course. A model for delivering learning content online to any person who wants to take a course, with no limit on attendance, often offered for free.

Personalized Learning: Paced to individual student needs, tailored to learning preferences and customized to the specific interests of different learners. Effectively utilizing technology gives students opportunities to take ownership of their individualized learning goals (Source: National Education Technology Plan).

Customized Learning: Informed by enhanced and expanded student data, which is applied to boost motivation and achievement, keeping more students on track for college and career readiness.

Blended Learning: A formal education program in which a student learns at least in part through the online delivery of content and instruction, with some element of student control over time, place, path and/or pace at a supervised brick-and-mortar location away from home. Compared to high-access environments, which simply provide devices for students, blended learning includes an intentional shift to online instructional delivery for a portion of the day in order to boost student, teacher and school productivity (Source: Clayton Christensen Institute for Disruptive Innovation, formerly Innosight Institute).

Project-Based Learning: A form of inquiry-based learning that is contextual, creative and shared, where students collaborate on projects that require critical thinking and communication.

Work-based Learning: Provides opportunities for students to learn a variety of skills through rigorous academic preparation with hands-on career development experiences. Under the guidance of adult mentors, students learn to work in teams, solve problems and meet an employers' expectations (Source: Utah State Office of Education Work-Based Learning Program Website).

Competency-based Learning: A system of education, often referred to as proficiency or mastery based, in which students advance based on demonstration of mastery. Competencies include explicit, measurable, transferable learning objectives that empower students. Assessment is meaningful and serves as a positive learning experience for students. Students receive timely, differentiated support based on their individual learning needs. Learning outcomes include the application and creation of knowledge, along with the development of important skills and dispositions (Source: CompetencyWorks).

INTRODUCTION

In describing its commitment to Deeper Learning, The William and Flora Hewlett Foundation "envisions a new generation of U.S. schools and community colleges designed to give all students — especially those from under served communities — the knowledge and abilities necessary to succeed in this new environment."

These schools would create opportunities for students to develop the six Deeper Learning competencies described and defined by The Hewlett Foundation that are essential to prepare students to achieve at high levels.[i]

1. **Master core academic content**. Students develop and draw from a baseline understanding of knowledge in an academic discipline and are able to transfer knowledge to other situations.
2. **Think critically and solve complex problems**. Students apply tools and techniques gleaned from core subjects to formulate and solve problems. These tools include data analysis, statistical reasoning and scientific inquiry as well as creative problem solving, nonlinear thinking and persistence.
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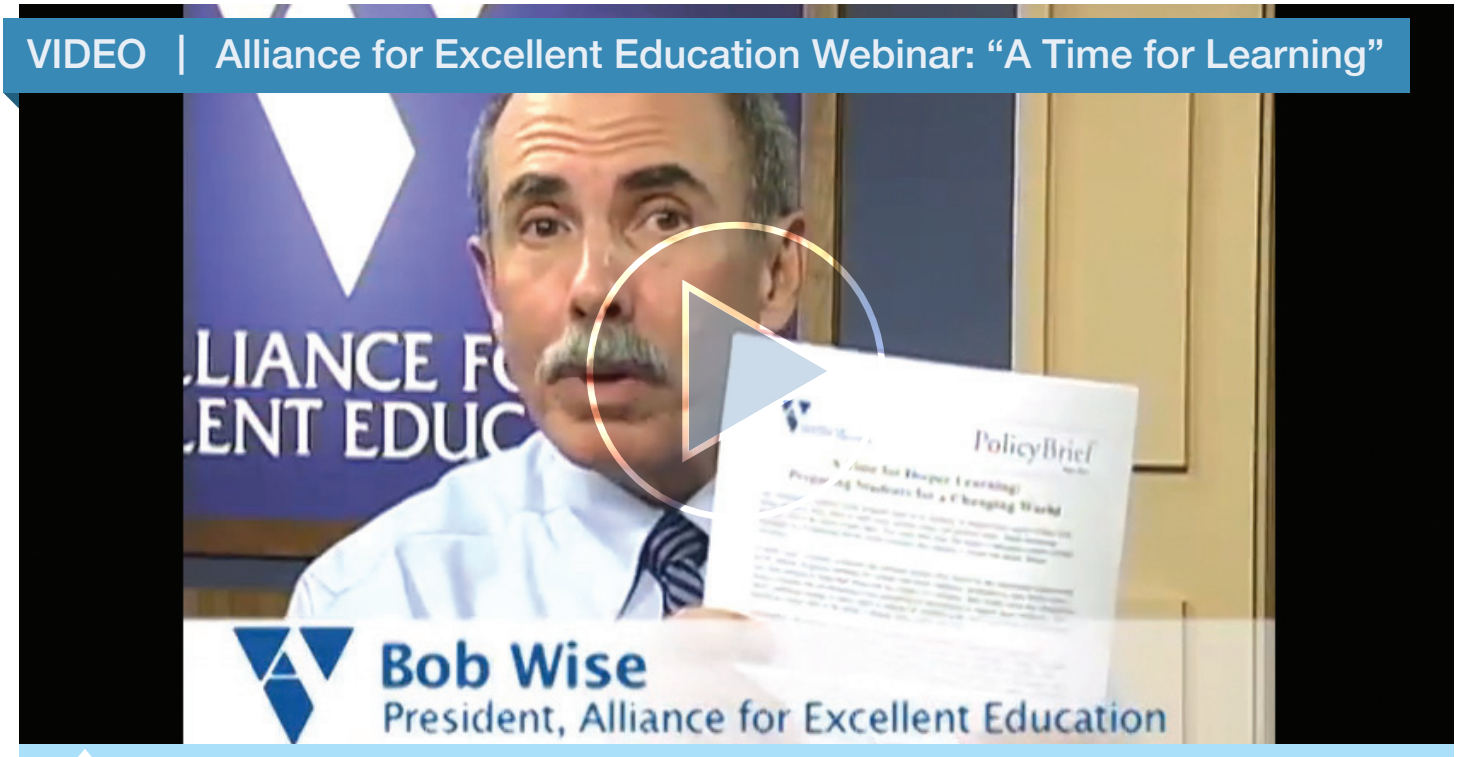
VIDEO | Alliance for Excellent Education Webinar: "A Time for Learning"



What is Deeper Learning?

The Hewlett Foundation explains Deeper Learning as "an umbrella term for the skills and knowledge that students must possess to succeed in 21st century jobs and civic life. At its heart is a set of competencies students must master in order to develop a keen understanding of academic content and apply their knowledge to problems in the classroom and on the job."[ii]

The Alliance for Excellent Education (The Alliance) posits that Deeper Learning is what highly effective educators have always done — delivered rich core content in innovative ways that allow students to learn and then apply what they have learned.

Thought leaders like Ken Kay have spent more than a decade advocating for "21st Century Skills"[iii] including critical thinking, collaboration and effective communication. With similar aspirations, Michael Fullan and Maria Langworthy assert, "We need our learning systems to encourage youth to develop their own visions about what it means to connect and flourish in their constantly emerging world and equip them with the skills to pursue those visions. This expansive notion, encompassing the broader idea of human flourishing, is what we mean by 'deep learning'."[iv]

Why Does Deeper Learning Matter?

The Alliance outlines the moral imperative for Deeper Learning experiences for more students:[v]

> For years, U.S. schools have tended to offer a two-tiered curriculum, in which some students, primarily white and relatively affluent, have had opportunities for Deeper Learning; while others, primarily low-income and students of color, have focused almost exclusively on basic skills and knowledge. More affluent and white students get to analyze works of literature and write extensively, while low-income and minority students tend to complete worksheets that focus on memorization.

The economic imperative is equally compelling. According to a U.S. Department of Education report, "the well-being of the nation increasingly depends upon U.S. high schools rising to the challenge of preparing all students for a new economic reality."[vi]

Dramatically boosting college eligibility and employability of America's young people, particularly low-income and minority students, deserves to be a national priority. That requires not only mastery of basic reading, writing and problem solving skills, but also the ability to apply those skills, as a member of a diverse team, in a variety of settings. According to America's leading CEOs, it requires work ethic, initiative and critical thinking.[vii]

The Alliance contends, "the weight of school tradition — with its emphasis on lectures and rote memorization — combined with the demands of state and federal education policies, often provide students leaving high school with an education that is, at best, the proverbial 'mile wide and inch deep'. They can regurgitate facts and concepts but have difficulty applying this knowledge in new and practical ways."

All student populations need a shot at college and careers. We need to create engaging opportunities for all young people to develop the knowledge, skills and dispositions necessary to have viable life choices in the ideal economy and to boost civic engagement and participation.

The DLN is a network of networks — 10 diverse groups of effective schools that show how Deeper Learning works systematically in real classrooms. Deeper Learning delivers the skills and knowledge students will need to succeed in a world that is changing at an unprecedented pace. Deeper Learning prepares students to: master core academic content; think critically and solve complex problems; work collaboratively; communicate effectively; learn how to learn (e.g. self-directed learning). Individually and together, DLN schools realize that what matters most is a student's ability to understand the world around them and to apply their knowledge and skills to succeed in college and life. Learn more at www.deeperlearning4all.org.

10 DIVERSE GROUPS

THE HEWLETT FOUNDATION'S DEEPER LEARNING NETWORK

ASIA SOCIETY INTERNATIONAL STUDIES SCHOOLS NETWORK

Asia Society's International Studies Schools Network (ISSN) is a national network of design-driven public, charter and private schools committed to developing college-ready, globally competent graduates. The ISSN works with school communities to prepare students for work and civic roles in a globalized environment, where success increasingly requires deeper learning skills such as collaboration, critical thinking and teamwork. The ISSN has worked particularly hard to overcome chronic poor performance among low-income and minority students.

BIG PICTURE LEARNING

Big Picture Learning (BPL) supports a network of fifty-six public schools located across the United States and a growing number internationally. Founded in 1995, BPL has refined and expanded its innovative public school design, which connects high school and college, to include support of urban and rural student populations. The core of the design is creating a learning program for each student, based on his or her academic and career interests and needs and on addressing essential learning standards. BPL schools promote learning goals to develop critical thinking, quantitative reasoning, communication, and collaboration.

EDVISIONS

EdVisions Schools, a network of forty small schools, promotes relevant and personalized learning environments that emphasize self-directed, Project-Based Learning to empower students, parents, and teachers. Working primarily with underserved students in both urban and rural areas, EdVisions credits its success to its focus on teacher-led schools, positive caring relationships, mentoring, and active student engagement in school decision making. Students are measured on rigorous academics as well as the deeper learning skills needed for postsecondary education, careers, and civic engagement.

ENVISION SCHOOLS

Envision Schools' curriculum and model utilize a "Know, Do, Reflect" approach to ensure that students excel at the Deeper Learning skills of thinking critically, collaborating productively and communicating clearly. At Envision's three small, urban public schools in the San Francisco Bay Area, students learn not only to master academic content (to "know"), but also how to apply that knowledge to real world situations (to "do"). Throughout the process of acquiring knowledge, they discuss and analyze how they are learning (to "reflect").

INTERNATIONALS NETWORK FOR PUBLIC SCHOOLS

Since 2004, Internationals Network for Public Schools (INPS) has supported a network of schools that provide quality education for immigrant youth who have arrived in the United States with limited English language skills, varying degrees of schooling, and different literacy levels in their native language. The schools focus on developing language skills and preparing students with the knowledge and skills they will need for college. INPS' are close-knit, nurturing communities that support students who may feel displaced as newcomers to the United States and students accustomed to the U.S. but who are still not proficient in English.

NEW TECH NETWORK

New Tech Network (NTN) is a nonprofit school development organization dedicated to ensuring that all students develop the skills and acquire the knowledge necessary to thrive in postsecondary education, careers, and civic life. Working with districts to build and sustain innovative K-12 public schools, NTN creates a rigorous and engaging school experience that features the intensive use of Project-Based Learning and technology and establishes a positive and engaging school culture. In the seventeen years since its founding, the network has grown to 133 K-12 schools in twenty-three states and Australia.

HIGH TECH HIGH

High Tech High is a network of eleven schools in San Diego County, California, spanning grades K-12 that prepares students for college and careers by providing a personalized, hands-on approach to learning, strong connections between students and adults, and a common intellectual mission, with strong teacher leadership. High tech high is authorized by California to fully credential its own teachers and also opened a graduate school of education in 2007 that offers master's degree programs for experienced educators.

ConnectED/LINKED LEARNING

Linked Learning is an approach that uses "pathways" to help students of all abilities connect learning to their interests and career goals. A pathway spans grades nine to twelve, connects high school and postsecondary institutions to ensure a smooth transition after graduation, and integrates rigorous academic instruction with demanding technical curriculum and field-based learning. Pathways are developed around industry sectors, such as business and finance, building and environmental design, biomedical and health sciences, or arts, media, and entertainment.

NEW VISIONS FOR PUBLIC SCHOOLS

New Visions for Public Schools designs, creates and sustains schools for New York City's highest-need students and provides educators with the tools and training they need to analyze student performance, diagnose problems and design solutions to improve instruction. New Visions uses teacher-led inquiry as a fundamental strategy to translate higher standards into classrooms. In partnership with the New York City Department of Education, New Visions provides operational and instructional support to a network of 75 small schools serving nearly 50,000 students. In addition, New Visions hosts a charter management organization, which operates a growing network of charter high schools in under-resourced neighborhoods.

EXPEDITIONARY LEARNING

Expeditionary Learning is a network of schools in which students learn by doing. Students at these schools learn math, science, history, English language arts, and many other subjects through projects, or "expeditions" that connect them to their communities and teach them the value of service. Students also learn how to think critically, solve problems, and collaborate—the kind of Deeper Learning skills that will help them to succeed in college, the workforce, and society.

MOVING FROM THEORY TO PRACTICE

The question is how to promote Deeper Learning at scale. Fullan and Langworthy suggest the work starts by identifying enabling conditions, student roles and the tools and models that accelerate learning — that is the primary purpose of this paper.[viii]

A nomination form was developed based on The Hewlett Foundation's Deeper Learning principles, schools from all over the country were nominated for participation in the project. Twenty schools met the Deeper Learning school criteria and were selected to participate. The Getting Smart team conducted interviews with the schools during the summer of 2013 to support final selection and to develop school profiles.

This cohort of Deeper Learning schools shows diversity in terms of geography, size, students served, school type — proving that Deeper Learning has the potential to improve outcomes for all students, regardless of their current learning environment.

Over the course of this paper, the unique attributes of schools are highlighted in the context of innovative models for teaching and learning. The paper's appendix offers a collection of two-page school profiles that contains detailed information regarding each school's characteristics and a set of profiles detailing the schools in The Hewlett's Deeper Learning Network. These complementary components are intended to offer something for every reader — from students, teachers and parents, to local, state and national education leaders and policymakers.

10 CHARACTERISTICS

THE 20 PROFILED SCHOOLS SHARED 10 CHARACTERISTICS THAT APPEAR TO PROMOTE DEEPER LEARNING:

GOOD GOALS.
Schools that promote Deeper Learning competencies have thoughtful goals; they personalize learning and align supports, staffing and schedule. Danville Schools in Kentucky is a great example.Their goals focus on powerful learning experiences, growth, global preparedness, communication and community. Engaging all students in Deeper Learning starts with making it a priority.

EQUITY FOCUS.
Schools that promote Deeper Learning engage all students—not just honor students and highly supported students—in experiences that help them master content, develop academic mindsets, promote collaboration and critical thinking and develop communication skills. According to principal Stephen Mahoney, "The accomplishments of Springfield Renaissance School's students prove that a child's ZIP code does not determine his or her destiny."

POWERFUL DESIGNS.
Deeper Learning schools are designed so that everything—structure, staffing, schedules and supportive technology—works together for students and teachers. It's always a dynamic process, especially for leaders inheriting a school rather than designing from scratch.

TEACHER SUPPORT.
The districts and networks studied provide a web of teacher support. They make it increasingly possible for all of their teachers to achieve great results with Deeper Learning goals, common instructional frameworks, learning platforms, and strong development systems for adult learners.

SHOW WHAT YOU KNOW.
Profiled schools are competency-based, meaning that they ask students to "show what they know" in a variety of ways, including publicly presenting what they have learned. Students progress based on demonstrated mastery.

STRONG CULTURE.
All of the schools have a powerful intentional culture. "We're a values-first organization," said Bill Kurtz, CEO of DSST Public Schools, an example of a network with a strong culture where students receive regular feedback on attributes of character development. "Each human being strives to be fully known and affirmed for who they are and to contribute something significant to the human story," said Kurtz.

GOOD HABITS.
Deeper Learning schools help students build "habits of mind" including building perspective, asking questions and making connections. Some, like Springfield Renaissance, complement these with habits of work: readiness to learn, active participation, assessing and revising, contributing to group work and completing homework.

SENSE OF PLACE.
Deeper Learning schools extend the learning day, invite resources in, leverage community assets, encourage service learning and take students on learning trips.

POWERFUL PROJECTS.
Profiled schools make good use of Project-Based Learning. Project goals, often derived from student interest, always incorporate standards-based assessment, and periodically result in public demonstrations of students' work. Some schools frame projects as civic or work-connected challenges, but they also conclude in rigorously scored assessments.

GREAT QUESTIONS.
"We want people to be perplexed, to embrace the paradox of starting new schools," said High Tech High founder Larry Rosenstock. Deeper Learning schools incorporate some of this "perplexity" into the curriculum by integrating subjects, assigning projects, hosting science fairs and creating demanding writing prompts.

What does Deeper Learning look like in practice?

The 20 schools we profiled differ in a number of key ways. The cohort's diversity inspires hope about the potential of Deeper Learning to enrich learning for every student, every day. Across the nation, students in these 20 schools benefit from environments that replace traditional notions of schooling with innovative models of teaching and learning.

All of the profiled schools use a variety of strategies to personalize instruction. Personalization is an important foundation upon which Deeper Learning can be thoughtfully built. While it is sometimes used as an umbrella term for any form of learning that revolves around student needs, truly personalized learning is customized to meet individual learning needs, tailored to learner preferences, paced according to individual mastery of content and based on unique student interests.

Most of the profiled schools make extensive use of Project-Based Learning, and some use blended learning and work-based learning strategies. All of them are competency-based — they ask students to show what they know and demonstrate mastery before progressing.

A previous paper summarized How Digital Learning Contributes to Deeper Learning and think tech-enabled Project-Based Learning holds great promise to boost college and career preparation. A group of schools that are particularly good examples were identified.

High Tech Middle Chula Vista (HTMCV), DSST Stapleton High School (DSST), The Odyssey School, Kearny High School of Digital Media & Design (Kearny DMD) and other profiled schools suggest that to avoid low-level activities and promote Deeper Learning projects, it is helpful to:

1. Pick compelling subjects and help students frame big but specific questions.
2. Set rigorous goals. Outline high quality products that will be produced and judged with standards-based rubrics.
3. Make the projects long enough to go in depth and build in milestones to keep teams on track.
4. Ask students to publish their work and create venues for presentations of learning to the school community.
5. Create regular time for teachers to plan and collaborate.

VIDEO | Student Voice: Experiencing Deeper Learning Through PBL

Underlying the shift to blended and student-centered environments is the transition from marking time to tracking learning. In competency-based environments, students show what they know and they progress when they've demonstrated mastery.

In Cohorts to Competency, the authors outlined advances in technology making it possible to bring competency education to scale, thanks to the growing set of tools that can help create and manage customized pathways. "Without leveraging technology and discovering new ways to use time and resources differently, we will fail to achieve the goals of college and career-ready standards. Shifting to competency-based education is an important step in the process."[ix]

Competency-based environments and policies can promote Deeper Learning where teachers ask big questions, build a culture of revision, demand public demonstrations of learning and collect artifacts that represent personal bests. Deeper Learning goals, shared practices and rigorous assessment protocols are key to success at scale. The New Tech Network (NTN) has a Project-Based Learning platform and a set of shared protocols that are a good example of tools, services and working agreements that will be necessary to bring powerful practices to scale.

The following sections describe each of the six Deeper Learning competencies and provide examples in practice.

Master core academic content – Students develop and draw from a baseline understanding of knowledge in an academic discipline and are able to transfer knowledge to other situations.

Success Academy is a New York City K-8 network (not profiled but a great example) where teacher selection and training demand a high degree of content knowledge. "Our teacher training is very focused on content work — studying and understanding the complex poem or math problem before they teach it," said a team member. "We want teachers delivering the highest quality lessons — creating engaging and thought provoking experiences for students."

As evidence of success, in the recently opened Bronx schools, 97 percent of students passed the new Common Core State Standards (CCSS)-aligned New York math test. Success Academy CEO Eva Moskowitz said, "We engage students with number stories everyday with 30 minutes of problem solving," Moskowitz, said, The brain-stretching work starts in kindergarten with fractions. Second and third graders receive adaptive math instruction from Dreambox. Intermediate grades compete in math competitions. "Our students solve problems and have vigorous discussions about math strategies every day. We want students to develop conceptual understanding and know efficient ways to solve problems," Moskowitz said.

On the New York science tests, 100 percent of Success Academy fourth graders passed (and only one student did not receive the highest score possible). That's because they start daily science work in kindergarten. "Part of the way you get great results is creating schools children love to attend. We don't treat children as a captive audience; we have to generate that motivation and interest," Moskowitz, said.

Adaptive assessment and instruction quickly identifies a student's learning level and deliver tailored units of instruction. At the Odyssey School in Denver, Colo., executive director Marcia Fulton's push toward competency-based math programs led to students using ALEKS assessments in fourth and fifth grades. Students spend roughly 20 minutes during each day at school on math software and use it at home for skill practice. They also use a platform to monitor their progress against math targets they are mastering. In grades six through eight, students use a variety of resources to demonstrate competency in math targets/standards, including Khan, ALEKS, Assistment and Connected Math.

Core subjects can be organized in innovative and integrated courses. DSST uses Big History Project, a compelling history of how we got here, as a ninth grade block. Big History "covers the history of the universe, the planet and human history," said teacher Jim Stephens, noting that problem solving is the core of their innovative ninth grade curriculum. "Students have to have an understanding of how the earth works in order to decide how humans have interacted with it. They need to look at the history of the problem and solutions that have been tried or suggested already, before they can try to solve it."

Envision Education is a Bay Area network of innovative high schools. Superintendent Gia Truong explained that students have to defend their work in order to demonstrate mastery. They may have to go back and do some things again until they can prove mastery. Envision students are judged advanced, proficient or unsatisfactory. Proficient represents mastery of the state standards and the advanced one represents the ability to apply that knowledge to another situation. Unsatisfactory means the student gets to go back and try again. Envision encourages a culture of revision. "This build persistence in students and helps them to understand how they learn best," Truong, said.

Envision students are encouraged to know, do and reflect. “The reflection piece is critical and Impact Academy of Arts and Technology emphasizes the importance of taking a set of knowledge and skills and having the ability to apply that to new situations and problems,” Truong, said.

Mastering core academic content provides procedural knowledge. If knowledge is gathered within a conceptual framework, students begin to appreciate how experts solve problems and gain the ability to apply knowledge to real world situations. Case studies suggest that content knowledgeable teachers, adaptive tools, engaging applications and a culture of mastery contribute to mastering core academic content.

Think critically and solve complex problems – Students apply tools and techniques gleaned from core subjects to formulate and solve problems. These tools include data analysis, statistical reasoning and scientific inquiry as well as creativity, nonlinear thinking and persistence.

At Anson New Technology High School in Wadesboro, N.C., teachers are set up as facilitators rather than dispensers of information. Principal Chris Stinson says teachers often work in multi-disciplinary teams. For example, World Geography and Earth Science are taught together, as are American Literature and U.S. History and World Literature and World History. Big blocks encourage students to take on big questions, it forces them to sort and synthesize multiple sources of information and select the most appropriate problem solving and presentation tools.

Teachers across the 130 school NTN promote critical thinking by building it into rubrics used to assess student projects and encourage what Stinson calls a “strong culture of revision,” leading to deeper understanding, quality work products and habits of persistence.

Business and community members are woven into Anson projects to demonstrate the relevancy of what students are learning. “The local community has been trained now so when they have a problem, they come to us to solve it,” Ms. Stinson, reports. By way of example, she spoke of the agri-civic center now being discussed by the local legislature. Her math classes took on the challenge of figuring out the seating capacity as a project. Their ideas are now part of the community-wide discussion about the creation of the actual complex.

At Bate Middle School in Danville, Kentucky, Principal Amy Galloway and her staff have spent the past few years “redesigning what we think school ought to be.” One major change has been putting teachers together in think tanks and teams to develop an innovative plan for what they think the Bate experience should be and what they think is important for Bate students. This has resulted in dramatic changes in the way teaching happens there, one of which has been an increase in personalization of the lesson to meet the learning needs of the student.

When Galloway asked them why they went into teaching, it led a discussion about which skills and things are important and should be focused on and emphasized. The discussion was lively and productive and eventually became the teacher-developed Bate Innovation Plan. The plan begins with the district’s goal for powerful learning experiences, incorporates Deeper Learning competencies and a commitment to rigorous performance-based assessment. Galloway and her staff want 100 percent of their kids to be problem solvers. “We want kids to learn to ask the question — to have the ability to find the answers to questions they have not previously been given,” she said.

Deeper Learning requires students to formulate problems and generate hypotheses, to identify the data and tools necessary to solve a problem, to synthesize information from multiple sources and to construct supportable arguments.

Work collaboratively – Students cooperate to identify and create solutions to academic, social, vocational and personal challenges.

According to the director of communications for the NTN, Krista Clark, “Project-Based Learning is at the heart of NTN’s instructional approach.” She defines it as a form of inquiry-based learning that is contextual, creative and shared, where students collaborate on projects that require critical thinking and communication. At METSA New Technology at R.L. Turnery High School (METSA) in Carrolton, Texas, Project-Based Learning allows students to master academic content and then successfully apply that knowledge when solving the authentic problems that form the basis of their curriculum.

Kearny DMD is one of four career-focused autonomous high schools within the Kearny Educational Complex in San Diego, California. A focus on Project-Based Learning is supported by the creation of grade-level teaching teams with common preparation periods in order to allow for both formal and informal integration of curriculum, as well as the transfer and application of knowledge learned in the classroom to projects undertaken in real-world settings. Principal

Cheryl Hibbeln and her staff have students work on interdisciplinary collaborative projects at each grade level that require making connections between multiple subjects in order to address a real world problem. “Scheduling common prep times for teachers allows for teacher collaboration, as well as the integration of consistent language and instructional practices so that students gain an understanding that their classes are connected,” Hibbeln, said.

Anson Principal Chris Stinson believes collaborative problem solving begins by identifying an authentic, genuine issue of importance in the world and then working to solve it. Teachers at Anson often team-teach across disciplines. “We sub out our kids to the community all the time,” Mr. Stinson proudly states. Students have programmed a metal fabrication robot welder, created an entire light and sound system for the local arts council and updated old computers for a local pre-k program. By integrating real problems into the curriculum and having students work on solving it, Stinson says his team keeps their students headed toward the type of real working knowledge they can use in and after college. “They know how to collaborate with others and articulate their thoughts. They are globally aware, technically literate and able to show up on time,” Stinson, said.

Career readiness demands collaboration skills — the ability to work in teams to set goals, to incorporate multiple perspectives and to create quality work products. All of the profiled schools emphasize collaboration as an essential and explicit outcome of Project-Based Learning.

Communicate effectively – Students clearly organize their data, findings and thoughts.

In the eleventh and twelfth grades, students at Impact, a member of the Envision network in Oakland, California, participate in the Workplace Learning Experience (WLE). For three months, they work one day a week as an intern at a business. In order to secure a WLE, they must write and send out a resume and cover letters, then interview with potential mentors. Truong said, “We encourage them to seek an internship in a field of interest and the WLE helps many students identify their ideal career — or find out what they don’t want!” At the end of their internship, students present their experience in a public exhibition. “It’s a powerful experience that equips students with job search practice, self-confidence and first-hand exposure to a career field,” Truong, said.

“Students show evidence of effective communication skills in various ways,” said Trish Oliphant, head of Sussex Academy, “They must demonstrate effective communication within their team or group setting. Peers are held accountable to each other not only for their contribution to academic project content, but also for how well they are able to present project findings or product deliverables.” Every student maintains a portfolio that highlights their communication skills both written and spoken. Students must frequently present their “findings” or other evidence of their learning to their peers, parents and others.

Kearny DMD students develop effective communication skills while studying relevant local and global issues. Ninth grade students address how human attitudes and choices affect sustainability and environmental issues in the local San Diego region and propose a “Plan for Change” to the city council. In tenth grade, students address the problem of supporting global population growth in a sustainable manner through the creation of an informational PSA and website that is assessed by their client — Eco Kids. Juniors address the impact of choices as global citizens on issues of social and environmental justice. Juniors created and implemented the Mayor’s Green Student’s Youth Forum and prepared print and media campaigns for The Surfrider Foundation. Other assignments address regional problems from immigration reform and human trafficking, to promoting math and science education in middle school through the development interactive Internet games.

Effective communication includes listening and incorporating feedback, understanding diverse audiences and delivering effective oral and written presentations.

Learn how to learn – Students monitor and direct their own learning.

Casco Bay values student inquiry. As a member of the national Expeditionary Learning (EL) network, juniors engage in a long-term interdisciplinary project that demonstrates their learning. Last year, juniors visited the coalfields of West Virginia and developed a multimedia presentation of oral histories. “Learning expeditions, a central curricular structure at Casco Bay, are founded on the belief that students should and can solve real-world problems while mastering skills and content,” Principal Derek Pierce, said. The projects within each learning expedition require students to think critically. Learning how to learn means teaching students to be “metacognitive.” Reflection and revision, as well as self-assessment against learning targets, are core practices of the EL design. In each class, teachers use assessment-for-learning practices on a daily basis.

At the Odyssey School, another EL school, Executive Director Fulton explained that Odyssey strives to harness children's natural passion to learn and helps them develop the curiosity, knowledge, skills and personal qualities they need for successful adulthood. The school is founded on the philosophy that children learn best through personal, direct experiences designed to take advantage of their natural curiosity about the world. Expeditions are planned backward from guiding questions that require critical thinking and go in depth on important subjects and topics. Students are required to complete significant research and writing, and in order to complete their work, they must address multiple perspectives and form their own opinions regarding politically charged topics such as social progress, access for the disabled, pollution and waste disposal, and educational equity.

The goals at MetEast are academic rigor, interest-driven internships and training, graduation with a diploma, a post-high school plan and the skills necessary for college and career success. Students have the opportunity to learn in a place where they are known and where people treat each other with respect. Like other schools in the Big Picture Network, MetEast students have personalized learning plans and internships that connect their interests to their learning, with the result being self-directed thinkers and learners with the skills necessary to succeed in college and beyond.

Most of the profiled schools ask students to set goals for many of their learning tasks, to monitor progress and to adapt their approach to complete a task or solve a problem. Schools like MetEast require more independent and work-based learning than is common in most U.S. high schools. Schools like Odyssey and Casco Bay challenge students with demanding projects that help students develop lifelong learning skills and dispositions.

Develop academic mindsets – Students develop positive attitudes and beliefs about themselves as learners that increase their academic perseverance and prompt them to engage in productive academic behaviors. Students are committed to seeing work through to completion, meeting their goals and doing quality work and thus search for solutions to overcome obstacles.

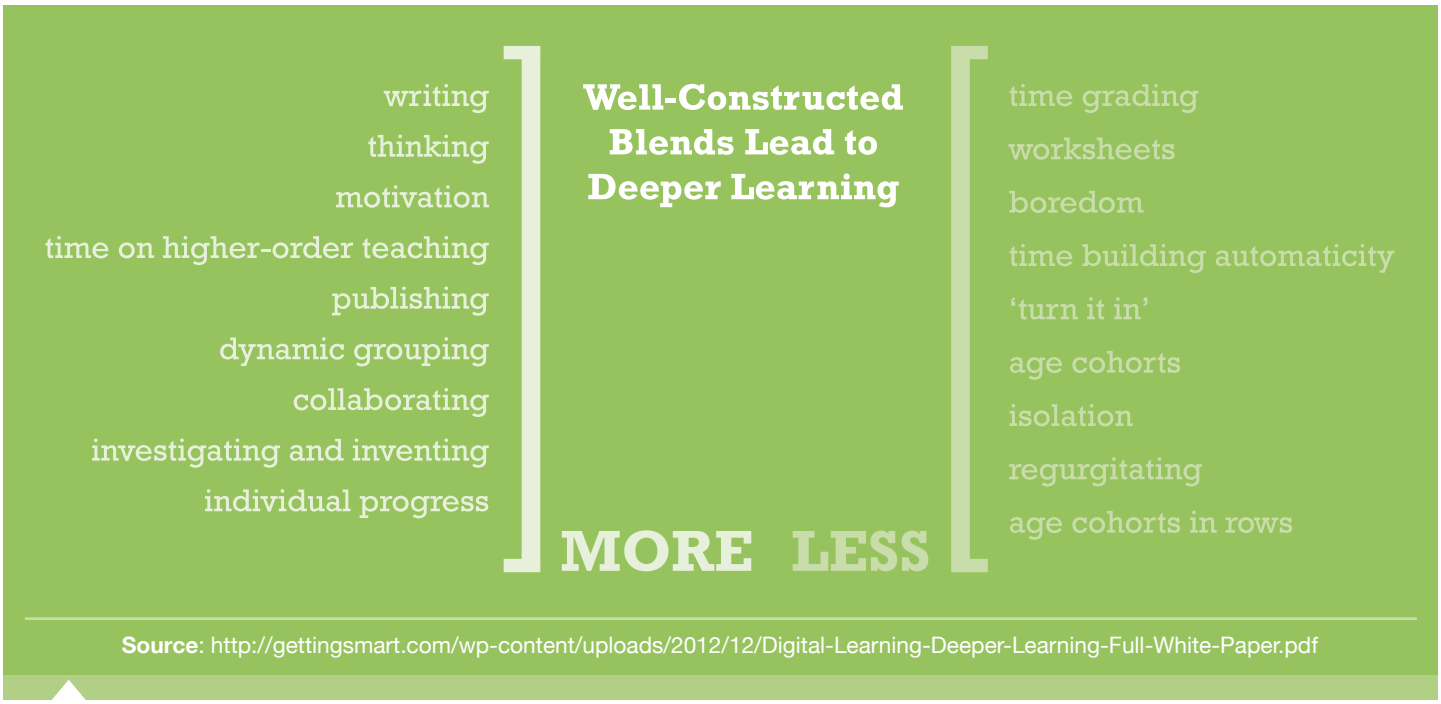
IDEA College Prep Donna is a Rio Grande Valley high school that offers the rigorous International Baccalaureate curriculum and anchors a high performing south Texas network. For seven consecutive years 100 percent of Donna graduates have gone to college. Developing and exhibiting an academic mindset is a school-wide effort and ingrained in the school culture. They celebrate academic achievement and recognize students for analyzing and providing rationale for their work.

Like many profiled schools, students at San Antonio's International School of the Americas (ISA) collect evidence of their best work in a digital portfolio. "Students develop a growth mindset throughout the four years by continually assessing their learning strengths and challenges, writing reflectively and creating annual and cumulative portfolios," Principal Kathy Bieser, said. "At the end of each school year ISA students present their portfolio to their parents, fellow students and other adults sharing how they have grown since the previous year, work they are especially proud of and the impact of their work on their future goals," she added.

Projects at the Denver Center for International Studies (DCIS) are scored on four domains of Global Leadership: Investigate the World, Recognize Perspectives, Communicate Ideas and Take Action. These four domains develop a framework for thinking and a rubric for evidence. By applying the rubrics to tasks in various subject areas, students become familiar with the evidence required to prove proficiency and are able to monitor their own progress. For individual assignments, the rubrics give students a clear idea of specific expectations, provide a focus for formative feedback from teachers and a "to do" list for revisions.

As DCIS students develop independence, they become partners in the development of classroom projects and leaders in initiating extracurricular activities such as clubs, school-wide or community events, and internships. The artificial separation between academic courses and experiential education is beginning to disappear and, in the competency-based environment, students are able to earn academic credit for out of school learning. The goal at DCIS is to develop a mindset of a lifelong learner.

Positive academic attitudes increase persistence and promote engagement. Profiled schools create a sense of belonging within a community of learners. They help students see themselves as achievers and build confidence with demonstrated competence. They help students gain insights into what motivates their learning and what strategies work best for them.



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CHALLENGING MISCONCEPTIONS

The implementation of the college- and career-ready standards and the next generation of online assessments, coupled with increased access to affordable technology, create an unprecedented national opportunity to reimagine teaching and learning. Innovators from the classroom-level teacher to national-level policymaker are seizing this opportunity to advance Deeper Learning outcomes. Educational leaders who are working to realize this vision are often faced with a set of common misconceptions that, left unchallenged, threaten the progress of the Deeper Learning movement.

This section identifies common misconceptions about Deeper Learning and uses examples from the schools we profiled to challenge existing myths. We begin with myths about students to show that Deeper Learning opportunities are not just reserved for a small crop of traditionally successful students. Next, we confront the myths related to Deeper Learning and the teaching profession. In the last portion of this section, we take on myths related to the system around the cost of Deeper Learning and community support.

Myths About Students

Myth: Deeper Learning is Just for Suburban Students

Schools that serve high-challenge communities are assumed to be preoccupied with remediation. With the growth of double-blocked core subjects and managed instruction programs, it is easy to assume that engaging projects and what might be called enrichment activities only happen in independent or suburban schools. We found dozens of schools (and evidence of hundreds) serving low-income students coast to coast that refuse to default to a thin test-prep curriculum.

Profiled schools share six characteristics that appear to support the success of low-income students. These schools:

- **Share an equity focus**: a mission to serve low income students and communities;
- **Recognize but aren't trapped by tests**: use data constructively toward achievement of a broader set of Deeper Learning goals;
- **Use quality assessments to encourage quality instruction**: rigorous assessment of authentic work;
- **Scaffold Project-Based Learning**: provide individual targeted academic support to promote engaging team-based projects;
- **Think big**: broaden life experiences, make connections, ask big questions; and
- **Provide fortified environments to address negative effects of poverty**: strong student supports and positive behavior management system.[x]

HTMCV is a good elementary example of these six practices. Sixth graders often arrive with academic skills below grade level, most dealing with the stress effects of poverty. Rather than a scripted approach, the faculty created curriculum is based on the High Tech High design principles of common intellectual mission, adult world connection and personalization. “Because we are dedicated to providing a personalized environment for our students, we are constantly finding new ways to change and individualize how we teach. We aim to scaffold our projects and provide multiple entry points for all students, leading toward quality products and outcomes in which the content is fully understood,” Andrea Morton. humanities teacher, said.

Modeled after the original High Tech High, HTMCV is 25 miles southeast of San Diego and serves a higher-need population. Teachers constantly monitor student performance and quickly modify instructional strategies. Morton said, “If a student doesn’t understand a concept, teachers will offer one-on-one tutoring to ensure they do; a tutoring center is also available after-school. She noted that students often have the opportunity to work with local experts and other community members as they “develop their critical thinking, critique and presentation skills.” In the process, they “create beautiful, relevant work to share in the ‘real world’.”

Schools in the NTN like METSA, use Project-Based Learning to engage low-income students in Deeper Learning. “Our mission ensures that students are strategically prepared for the rigor and self-discipline of college and the innovative demands of STEM career pathways,” said METSA school Director Mansoureh Tehrani despite the fact that more than 70 percent of the Carrollton, Texas students live in or near poverty.

NTN students “collaborate on projects that require critical thinking and communication. By making learning relevant to them in this way, student engagement reaches new levels. This higher level of engagement is associated with better educational outcomes.”[xi] Network results suggest, “Working on projects and in teams, students are accountable to their peers and acquire a level of responsibility similar to what they would experience in a professional work environment.”

Kearny DMD focuses on real-world assignments and the development of an academic mindset. The latter is a significant challenge for many, according to principal Hibbeln, who serves a student population that is 85 percent minority and 67 percent free and reduced lunch. Because many students are functioning below grade-level, they require additional supports in order to develop academic competency as well as communication, collaboration and other skills required to work with outside professionals to complete complex projects. The Kearny DMD staff tackles these issues with what Hibbeln calls, “an intentional multi-grade approach and common instructional expectations for Deeper Learning.” She added, “The staff works to create meaningful and relevant standards-based lessons, establishes high expectations and then supports students as they take on the tasks set before them.” Supporting students in developing these higher-level skills has precipitated a shift in planning and instruction, project work and the structure of Kearny DMD courses.

Even though Minnesota New Country School is located in a town of only 900 in Henderson, Minn., Director Dee Thomas “wants to make sure they have a world focus.” They make sure they are exposed to the types of experiences that are not standard for poor farm boys in rural Minnesota, such as museums and opera and theater, etc. “To take a bunch of farm boys to the opera for the first time is amazing,” she said. “I took nine kids to Seattle. We got on the plane and I asked, ‘How many of you have ever flown before?’ Less than half.”

Myth: Deeper Learning is Just for Honor Students

Students in the same big American secondary schools often have very different experiences: students that start a few grade levels behind get a thin drill-based pedagogy while high-performing students receive enriched coursework from talented teachers; struggling students often get a double dose of test prep while advanced students take thought provoking electives and challenging college level courses. Deeper Learning schools engage all students in meaningful work while supporting individual progress in content mastery, communication skills and problem solving.

Students at ISA engage in big projects each year. Only two months into their freshmen year, students write and perform a play in an elementary classroom. Sophomores study acculturation versus assimilation of indigenous groups. Juniors take on a modern injustice. Seniors wrestle with United Nations Millennium Development Goals. ISA creates a high-challenge, high-support environment for prospective teachers as well as students. As a professional development school for undergraduate students, ISA challenges assumptions about high schools and student learning. Interns experience a globally focused, interdisciplinary, Project-Based Learning, authentic and relationship-driven curriculum. Secondary schools that promote Deeper Learning competencies engage all students in powerful learning experiences; they develop academic mindsets scaffolded by strong supports.

Kearny DMD's Principal Hibbeln said, "a student-centered approach to teaching, teacher collaboration through common prep planning periods and a focus on engagement through real world Project-Based Learning [have been] major factors in the overall rise in student achievement." One of four academies on a big San Diego campus, the development of an academic mindset can be a significant challenge for Kearny DMD's students, many of whom come into high school functioning below grade-level expectations. Hibbeln and her staff tackle this issue through an intentional multi-grade approach and common instructional expectations. She said her teachers share a common belief that all students are capable of meeting high expectations and they hold students accountable to those standards.

Across the curriculum, Kearny DMD teachers emphasize Deeper Learning habits combined with skill building and high expectations to help students develop an academic mindset. The mission at Kearny DMD is to develop exemplary communication skills in students through authentic, media-based experiences in an environment of high academic and social expectations. In that pursuit, Kearny DMD emphasizes Project-Based Learning, which encourages the transfer and application of knowledge obtained in the classroom to the interdisciplinary projects students must complete each year. These projects integrate elements from each of their core courses and require students to make connections between multiple subjects and a real world problem.

Teachers at HTMCV work in cross-content area teams such as math and science to develop projects that focus on collaboration as well as mastering the skills necessary for each subject. In all classrooms, inquiry-based study engages student interest and encourages the development of essential skills such as cooperation, collaboration and effective communication.

"Many projects involve observing, questioning, predicting, researching, designing, experimenting and concluding and teacher strategies include research projects and papers, Socratic seminars, mock trials, debates, model creation, modifying existing designs, designing and conducting experiments, predicting outcomes, analyzing data and forming conclusions. Because we are dedicated to providing a personalized environment for our students, we are constantly finding new ways to change and individualize how we teach. We aim to scaffold our projects and provide multiple entry points for all students, leading toward quality products and outcomes in which the content is fully understood," Morton, said.

The four academies at Reynoldsburg High School (east of Columbus, Ohio) are developing capstone experiences designed to bridge high school coursework with college and job preparation. At eSTEM, students can sign up for capstones experiences focused on design, logistics, or energy, environment and the economy. Each triple-block course packs in college credit courses (MOOC or AP), internships and undergraduate-style research projects. The combination of small academies and big blocks makes it easier to incorporate new delivery technologies and customized learning experiences. Reynoldsburg students all engage in big, relevant projects but receive individualized support. A student told the Columbus Education Commission they enjoyed individual pacing, more instructional resources and mastery-based progress where there is always the opportunity, "if you don't do well on a test you can go back and correct your work."

The 130 schools of the NTN share Echo, a Project-Based Learning management system. This year NTN launched two new online courses available across the network.[xii] Unlike traditional online courseware, each course at NTN is made up of a series of projects. Now scaling within network schools are College Ready Assessments embedded within projects that enable teachers to score individual student work, culminating in a rubric-scored performance assessment. Echo helps to ensure that each project is standards-based and aligned to the network's Learning Outcomes and is rigorously scored. It also includes an extensive curated library of projects that teachers can use or adapt. Because Echo has social learning features, students can learn to collaborate online. Over the next two years, the online classes will extend the reach of each teacher to more students and will provide all students with access to more quality options.

Myth: Deeper Learning is Just for Native English Speakers

Students new to English are often placed in remedial programs with thin academic content. In addition to the border schools profiled, Springfield Renaissance School, Kearny DMD and Wyandotte High School are good examples that Deeper Learning competencies and language acquisition are quite compatible. These schools with high proportions of English-language learners (ELL) are able to focus on mastery of English in the context of Deeper Learning instructional practices, developing these competencies in tandem.

According to Kearny DMD Vice Principal Sandra Cephas, "it's all about the type of learning students at Kearny DMD do — plus a few extras designed for ELL students but from which native speakers benefit as well." As Kearny DMD

is a Project-Based Learning school, the way students are educated depends largely on hands-on experiences. Because ELL students are never segregated from native speakers at Kearny DMD, they are always immersed in English language learning. In addition, teachers utilize SDAIE (Specially Designed Academic Instruction in English) strategies, which are designed explicitly for teaching academic content to English learners so students simultaneously gain mastery in the content area and in English. This approach requires carefully prepared instruction that allows students to access the English language content with support from material in their native language, including "reduction of teacher talk," collaborative problem solving, extensive use of graphic organizers and other visual and manipulative tools and the type of critical thinking that comes from extensive teacher questioning. In addition, Cephas pointed out that teachers are supported by being in grade level teams with common preparation periods, during which they have time to discuss the specific needs of their students, including those learning English, in order to ensure that all students have the assistance and support they need to learn.

Stephen Mahoney, principal at Springfield Renaissance, a magnet school in Springfield, Mass., has opted for "push-in classroom support" and lots of time for teachers to consult with their colleagues regarding the progress of specific students. While he said they occasionally pull a student out of his or her classroom for support on a specific project, "our default is inclusion." He noted "as a magnet school, we are disproportionally low in our ELL population as compared to the rest of the district." His experience tells him that this is because many ELL families are not accessing the system. He said there is a limit to what he and his team can do outside of their own campus. "When I do outreach, I specifically go to the north end of the city, where we have a lot of ELL students," he said. Mahoney emphasized the fact that just because a lot of ELL families are not accessing the system does not reflect a lack of interest, but rather the fact that because their English is limited means they have limited ability to access the choices available to them.

Walking the halls of Wyandotte in Kansas City, Kan., one is guaranteed to hear at least one unfamiliar language. According to Principal Mary Stewart, you might hear Burmese, Nepalese, Thai, or one of 17 other languages. In order to work with the 42 percent of students for whom English is not their native tongue, Stewart and her staff have developed three specific programs:

- The Newcomer Center is a classroom focused on students who are new to the country and have a disrupted educational history, often as a result of being refugees.
- Language Acquisition classes support the development of reading, writing and speaking in English, moving students from beginning to intermediate ability levels.
- Sheltered classes are made up entirely of non-native-English speakers and are taught by educators who are certified in ESL/ELL and are highly qualified in English, math, social studies, science, or consumer education.

According to Stewart, "the goal of our ESL program is to transition our students through the continuum of supports at the appropriate timing for each student." In order to meet this goal, her ESL teachers meet each week to discuss the language acquisition and academic progress of each and every one of the 75-100 students. They also meet regularly with their designated small learning community teams to receive feedback from the non-ESL teachers in their community about individual student progress and any additional support that might be needed. Stewart describes it as a combination of problem solving and language acquisition.

Myths About Teachers

High-quality teaching is an important ingredient in the success of a Deeper Learning school, especially as it relates to what The Alliance calls a "culture shift" from a "teacher-centric culture to one that supports learner-centered instruction with an intense focus on the student."[xiii] A recent NRC report echoes this sentiment, noting that pedagogy must be a key element of Deeper Learning instruction. However, it doesn't take a specially trained teacher to promote Deeper Learning outcomes.

Myth: Deeper Learning Takes Superstar Teachers

Stories of innovative classrooms and schools may be dismissed as irrelevant or not scalable, because superstar teachers power those classrooms. But districts and networks are making it increasingly possible for all of their teachers to achieve great results with common frameworks, big goals, good plans, strong development systems for adult learners and learning platforms.

EL is a national network of more than 150 schools that share powerful design principles including "The having of wonderful ideas." EL schools feature dynamic leadership, compelling curriculum, engaging instruction, continuous

assessment and a positive school culture. Teachers in EL schools learn to use open-ended guiding questions to push students to search for evidence, form and articulate opinions and positions, and put together recommendations or conclusions that are then presented in a public setting. The EL frame isn't scripted and the network lacks a common platform, but the guiding principles and assessment strategies are powerful.

Bate principal Dr. Galloway explains that her teachers are not all "superstars." Together they developed the Bate Innovation Plan, which focuses on the district diploma, the book Habits of Mind, lots of project- and challenge-based learning and a balanced assessment system combining their experiential focus and performance-based assessments. She said she and her staff want kids to learn to ask the question, to have the ability to find the answers to questions that they have not previously been given and for 100% of our kids to be problem solvers. The Bate teacher conversation took place within a district with well-stated goals focused on powerful learning experiences, growth for all, global preparedness, effective communication and involved community. Good goals, a solid plan, shared protocols and strong academic systems help every teacher promote Deeper Learning competencies every day.

Hiring and developing teachers is Summit Public Schools priority. Demonstrated expertise across seven dimensions of the Summit continuum places teachers on one of four levels: basic, proficient, highly proficient and expert. The measured dimensions of teaching include Assessment, Content, Curriculum, Instruction, Knowing Learners and Learning (special education and ELL), Leadership and Mentoring. Placement and movement on the continuum are based on a combination of principal evaluation, peer evaluation and self-evaluation. The system empowers teachers to present evidence of their performance and growth. Each of the four steps typically takes two years to master. The competency-based system helps good teachers become great teachers by placing each teacher on a personalized plan for improving their practice — complete with actionable goals and metrics for measuring results.

EMPOWERING TEACHERS.

At Bate Middle School, the goal is not getting teachers "on board" or achieving "buy in" explains Galloway. Framing teacher involvement in those terms implies that they are signing-on to someone else's plan. Galloway believes the most successful leaders empower teachers to be a part of the process and create a culture that promotes experimenting, "failing fast" and continually learning. It's a culture where faculty input is not just solicited but valued. Where teachers have meaningful involvement in developing and presenting plans and then bringing plans to a full vote before implementation begins. Principals like Galloway recognize that leadership is not about control, but rather "letting go" and trusting in teachers and staff as professional educators who know their students and want what's best for them. Galloway explains, "just as best practice means giving students a voice and choice, the same best practices apply to working with teachers and staff." In fact, it is just as important to engage parents and the community as well by inviting them into the schools and keeping the lines of communication open. There are no shortcuts to this type of meaningful involvement. Galloway says it takes two to three years minimum, with ongoing refinement for years to come, to achieve this type of involvement from parents and the community.

DEEPER LEARNING FOR TEACHERS.

Executive Director Marcia Fuller points to a handful of strategies at Odyssey that promote a strong Deeper Learning environment in service of teachers and on behalf of kids. These strategies include:

- Practices that prioritize hiring teachers with dispositions that promote Deeper Learning instructional practices over degrees and experience.
- Professional development that is authentic and enriching to echo the Deeper Learning experiences of students.
- The creation of an annual staff work plan that is narrow and focused in order to facilitate "digging deep" as a learning community of adults.
- A school calendar that supports on-going professional learning — weekly early release days and full professional development days, classroom labs to observe and share best practices.
- Online tools that generate differentiated plans, feedback, resources and analysis.
- A culture that acknowledges and supports important adult learning elements such as peer-to-peer collaboration, regular feedback, self-reflection, goal-setting, formal mentoring, etc.

According to Odyssey Executive Director Fulton, "leaders, teachers and students embrace the power of student-engaged assessment practices to build student-ownership of learning, focus students on reaching standards-based learning targets and drive achievement." Odyssey requires everyone involved in the education process understand that the best way for students to learn is to continually assess their work using models, reflection, critique, rubrics and working with experts. It does not require that teachers be experts in all things. Fulton says it does require staff members to engage in ongoing data inquiry and analysis, examining everything from patterns in student work to results from formal assessments, disaggregating data by groups of students to recognize and address gaps in achievement. All of which can be taught if they are not part of a teacher's skill set upon arrival to the school.

At METSA, they have been working closely with NTN on re-envisioning their academy to promote and support Deeper Learning. According to Director Tehrani, "we are developing standardized rubrics and performance assessments that can be used by all the schools in our network." The goal of 100 percent college- and career-ready graduates and two years of development to support CCSS have culminated in a completely redesigned School Success Rubric, resulting in rubrics aligned with learning outcomes for fifth, eighth and ninth through twelve grades. In addition to the Success Rubric, NTN teachers are supported by a common learning platform, a curated project library and frequent professional development opportunities.

Myths About Schools

Myth: Deeper Learning is Just for High-Performing Schools

Deeper Learning instructional practices are not just for schools that are already high performing. In fact, an emphasis on Deeper Learning competencies can be a core component of an overall school turnaround. Turning around low performing schools is tough, particularly high schools. Good schools have good goals;[xiv] they use a variety of strategies to personalize learning and align supports, staffing and schedule.

Efforts to turn around low performing schools often involve managed instruction: standards-based instruction, uniform pacing, benchmark assessment and professional development. Sometimes these efforts incorporate rich learning experiences but all too often, these well-intentioned efforts increase consistency while wringing anything interesting out of the day. To paraphrase Tony Bryk and Dick Elmore, moving from no teaching to some teaching isn't always a path to good teaching.

MODEL ELEMENTS	TYPICAL TURNAROUND	DEEPER TURNAROUND
GOALS	Improved test scores	Improved college & career readiness
CURRICULUM	Scripted approach	Challenging students in interesting ways
SCHEDULE	Uniform pacing guides	Mix of performance & project groups
ASSESSMENT	Benchmark quizzes	Rigorous assessment of authentic work
ADULT LEARNING	Professional development to boost fidelity	Field trips to learn from meaningful experiences

When it comes to turnaround situations, creating a positive culture and setting good goals are always the first step. Measurement around a few priorities can bring quick results and create momentum. It may be easier to implement a scripted approach, but three profiled schools suggest that creating structures and supports for adult learning will not only yield quick benefits, but will also lay the foundation for long-term success.

We found a group of schools that have dramatically increased student achievement in relatively short time periods by challenging students in interesting and authentic ways.

Many of the schools we found were "purpose built" for Deeper Learning outcomes and often part of a national network with a strong set of design principles and sometimes a shared learning platform. But we've also found great examples that challenge the assumption that Deeper Learning instruction can't happen as a component of school-wide reform.

The Danville, Ky. district that is home to Bate turned 100 years old last year. When Bate originally opened, the entire student body was African American and served students through high school. The school began integration in 1964 and served grades seven and eight. In the 1970s, a new building was constructed and Bate began serving grades six through eight. "Eight years ago this school was on the state watch list," said Superintendent Carmen Coleman. This month, The Partnership for 21st Century Schools named Bate an Exemplar School. Coleman said, "They've come a long, long way!" Two years ago they began adding Project-Based Learning and engineering, which begins with an

introduction to engineering and includes systems, gaming engineering and some programming courses from Stanford. They visited high-performing schools across the country. Project-Based Learning is supported through a flex-grouped schedule that allows teachers to block and mix classes as needed throughout the year. This schedule allows for more in-depth Deeper Learning experiences and applications of the skills and content the students are learning. In their redesigned educational environment, students receive in-depth experiences in engineering and the arts, as well as speech and communications, foreign language and a multicultural curriculum. This is accomplished through individual growth goals supported by individualized instruction in math and reading complemented by individual and team projects.

When Katie Decker was appointed principal in 2001, Walter Bracken STEAM Academy was one of the lowest performing elementary schools in Clark County. The school is in a low-income, predominantly Hispanic North Las Vegas neighborhood. Decker believed that choosing a STEAM (science, technology, engineering, art/design and math) theme would help form a school identity. Instructionally, she believes in finding out what students like and teaching them based on their interests. Art is infused into the STEM-focused curriculum. Students participate in a minimum of three field trips each year. Experts from the community support student immersion in real-world applications. In addition to community partnerships, the improvement formula includes parent involvement, an invested staff and effective use of technology.[xv] Grade level teams assemble a variety of instructional components and use social learning platform Edmodo to communicate and collaborate on assignments. Decker's enthusiastic leadership and relentless follow-through transformed Bracken into an award-winning K-8 program that is ranked among the top schools in district.

A visit to Wyandotte a dozen years ago convinced us that it was possible to convert a big, bad high school into a good college prep school.[xvi] Students choose from seven themed small learning communities that incorporate job shadowing, internships, field trips and hands-on learning. A solid core curriculum, a relationship-based advisory group and lots of peer instructional feedback made a big difference. Restructuring the Kansas City, Kan., high schools into small learning communities in 1999 improved graduation rates from 48 percent to 81 percent by 2005. Smaller communities and an advisory structure promoted personalization, built student persistence and boosted teacher and student collaboration within and across courses.

Getting students into the right math courses and focusing on the quality of instruction boosted math proficiency rates from seven percent in 2003 to 53 percent by 2008. The percentage of students reading proficiently nearly doubled over the same time frame. College enrollment rates doubled from a quarter to nearly half of the graduating class during the same period.

In what may be the most improved urban American district, the results at Wyandotte and other secondary schools were achieved by a sustained focus on rigor and relationships. They started with a new goal, college and career readiness (a novel idea 10 years ago). They got to know their students, improved course taking patterns and the teachers got on the same page about good teaching.[xvii]

Improvement efforts in metro Kansas City are supported by PREP-KC that encourages Deeper Learning outcomes by directing district partners to focus on rigorous math, early college and workforce preparation and by measuring progress in each area.

Myth: Deeper Learning Only Happens in College-Going Communities

It can be a challenge to lift expectations in communities that do not have a strong history of sending students to college. All of the profiled schools do an admirable job of propelling first generation students into and through college, particularly Springfield Renaissance, IDEA Donna, ISA, Impact, Summit and Kearny DMD. Each of these schools use five common elements to propel students to college:

- Explicit goals: a college preparatory mission;
- Focused college preparatory curriculum (i.e., limited course options);
- Academic culture: shared pedagogy that incorporates critical thinking, problem solving and effective communications;
- Advisory system: college and career awareness, distributed counseling, academic tracking and peer support systems; and
- Access support: counseling, test preparation, applications and financial aid.

According to Principal Mahoney, when Springfield Renaissance opened in 2006, there were few options available within the public school system for students who wanted a rigorous college preparatory education. Springfield Renaissance has spent the last seven years filling that gap. 100 percent of its first four graduating classes were accepted into college, 78 percent of whom matriculated, compared to only 30 percent district-wide. Since then, each graduating class has maintained that 100 percent college or university acceptance rate and over 70 percent of those students have completed or are continuing their secondary education. According to Mahoney, "all our students know they are on the path to college from the moment they begin sixth grade. College planning and visits begin immediately."

Springfield Renaissance, part of the EL network, has been designed to provide a rigorous college-bound program that impels and supports students to use their minds well, care for themselves and others, and rise to the duties and challenges of citizenship. The school's explicit and consistent attention to character traits like self-discipline and perseverance serve to reinforce the academic mindset. According to Mahoney, "the school's public, authentic, high-stakes performance assessments certainly draw the most attention. But ensuring that students' voices are heard within each day's class debrief, the common use of protocols such as Socratic seminars, fishbowls and save the last word are as important, if not more so, in reaching this population." In order to make communication a daily experience, he has instituted monthly student-led class and division meetings and worked with his staff to create a curriculum that requires consistent student engagement. "What is important to keep in mind is that our college bound mission is not driven by the need for status," says the school's website, "It is our fervent hope that our students will use their college degrees to use their minds well, care for themselves and each other and rise to the duties and challenge of citizenship." While status is not the goal, it is sometimes an unintended consequence. Renaissance has won state and national recognition and has become a sought-after pre-service internship placement for both teachers and counselors, hosting 12 to 18 teaching and counseling interns from six local colleges and universities each year.

IDEA Public Schools is a south Texas school network that prepares students from underserved communities for success in college and citizenship. IDEA is committed to "College For All Children" and has sent 100 percent of its graduates to college for six consecutive years. The first school, IDEA Donna has received authorization from the International Baccalaureate (IB) organization to offer the Middle Years and Diploma Programmes. IDEA students also participate in the Road to College curriculum, administered by full-time college counselors, beginning in sixth grade. The curriculum, developed with Uplift Education, a Dallas IB network, describes what it takes to succeed in a college and the barriers often faced by first generation students.

"We specifically target students who are the first generation to go to college in their families and then we focus on both skills and experience," said Envision Education Superintendent Truong. "Some schools focus more on skills. Some focus more on experience. We focus on both in order to make sure that our graduates are really college-ready." Like the two other Bay Area Envision high schools, Impact stresses core competencies including research, inquiry, analysis and creative expression. The Impact team focuses on Deeper Learning instructional practices across the curriculum: thinking critically, collaborating productively and communicating clearly. In a students first two years of high school, they participate in an advisory period, focused on helping students develop an academic identity, getting to know who they are as learners. The upper division advisory is geared toward work experience as well as researching and selecting a college. The idea that students learn most effectively when the coursework is engaging and relevant to their lives is central to Project-Based Learning. Truong said, "Our students put their knowledge to work while tackling complex, real-life problems and questions. Students are encouraged to know, do and reflect." The reflection piece is critical and Impact emphasizes the importance of taking a set of knowledge and skills and having the ability to apply that to new situations and problems.

ISA pledges to graduate reflective life-long learners, individuals who approach each new experience mindful of previous learning and open to the possibilities of new learning and growth. ISA students develop a four-year portfolio tracking academic growth in each subject as well as Habits of Mind (e.g. persistence, thinking about thinking, managing impulsivity and the application of prior knowledge to new situations). Seniors present their portfolio to demonstrate that they have mastered ISA Performance Outcomes: Investigate the World, Recognize Perspectives, Communicate Ideas and Take Action.

Summit Public Schools network built Activate, a learning management system, with Illuminate Education to manage their student-centered learning environment. They also developed a Personal Learning Plan to track growth trajectory of knowledge, skills and success habits against college goals. Students falling short of their planned growth trajectory, on any front, will see a big red warning system. The system will also need to translate the innovative experiences into credits and grades for application to traditional universities.

Myth: Deeper Learning Costs More

Many schools just wish they could do more for their kids. With no extra money, other schools find a way to engage students as makers, producers, journalist, historians and scientists. American schools spend more than $10,000 per pupil annually.[xviii] There are hundreds of schools that spend less than average, yet provide deep engagement and authentic work. That's not an argument for spending less, but it is clear from profiled schools and the networks they belong to, that high engagement and thoughtful pedagogy doesn't need to cost more than a thin drill and practice.

Of the schools profiled, Bate, METSA, Springfield Renaissance and Kearny DMD provided particularly good examples of schools with very low funding that still create Deeper Learning experiences for students. As Bate Principal Dr. Galloway said, "We are always working to find ways to incorporate as many innovative and deep learning experiences as we can at the lowest cost that we can."

Setting clear priorities has allowed the staff at Springfield Renaissance to offer a diverse academic and elective program that includes fieldwork with local and national experts, athletics and outdoor adventure, portfolios and internships, heterogeneous classes, AP courses, authentic performance assessments, peer critique and consistent individual reflection for all 700 Springfield Renaissance students. There are fewer electives and sports teams at Springfield Renaissance than at the comprehensive high school in town. As a magnet school, Springfield Renaissance submits an annual innovation plan. It outlines some of the tradeoffs including dropping a summer tutoring program for lack of funding. Springfield Renaissance relies on partners to help offer an interesting array of week long "Intensives" each semester.

Mahoney makes sure students and families are full partners in the school and remain involved throughout important decision-making processes. The school's motto is "Work hard. Be nice. Get smart!" "It captures the Springfield Renaissance spirit and culture, our shared values for students and staff and explains much of our success," Mahoney says. That kind of leadership doesn't cost more, but it makes a big difference.

According to Principal Hibbeln, Kearny DMD has recently shifted its Expected School-wide Learning Results (ESLRs) to emphasize and hold students accountable to deeper levels of learning, including critical thinking and creative/innovative thinking. This is important both in terms of the real-world educational approach, which relies on summative and formative assessment as well as regular interaction with professionals in the field of focus and because the adoption of the CCSS requires deeper levels of thinking and learning. Hibbeln noted "supporting students in developing these higher level skills has precipitated a shift in planning and instruction, project work and the very structure of Kearny DMD courses." According to her, what isn't required is more money. Future planning and staff development will revolve around the assessment of student progress and adjusting instruction so all students can succeed in this more rigorous environment. In pursuit of those goals, Hibbeln has already implemented an assessment model, which requires students to defend mastery of content and industry competencies, another major upgrade that added nothing to her per-student expenditures.

9 WAYS

Digital Learning Promotes Deeper Learning

CREATING CONDITIONS FOR SUCCESS

The schools we profiled show what Deeper Learning competencies look like in practice and challenge common misconceptions about Deeper Learning experiences for students, teachers and the system as a whole. These school examples showcase what is currently happening on the ground and inspire the possibilities to bring Deeper Learning opportunities to every student, every day.

The process must begin with an acknowledgement of student learning goals and move through an implementation and evaluation effort that keeps student needs at the center. As our school stories have shown, Deeper Learning implementation can happen in a number of ways—from one teacher and one classroom that inspires school-wide change, to the creation of a new school with Deeper Learning competencies as a core design principle. Networks can play an important role in building capacity and resources.

In order to create the conditions for successful implementation of Deeper Learning instructional practices, those who are looking to implement or expand current opportunities must consider what experiences promote Deeper Learning outcomes, as well as the role of leadership and the implications for policy.

What Experiences Promote Deeper Learning?

In "How Digital Learning Contributes to Deeper Learning," we explained that if schools want to foster Deeper Learning outcomes, it is important to first determine what types of learning experiences are most likely to promote it.[xix] We determined the following opportunity set:

- New strategies and forms of delivery — such as blended learning, competency — based learning, online and anywhere/anytime learning, customized learning and social learning — have the potential to produce the types of teaching and learning experiences that can contribute to Deeper Learning experiences for every student, in every classroom.
- The best and brightest teachers may find ways to deepen learning in their individual classrooms, but there is no way to expand to scale in a way that can serve all students equally without technology.
- The CCSS prioritize these Deeper Learning opportunities with the intent of creating more rigorous and engaging lessons that allow increased critical thinking and knowledge application. The widespread implementation of the CCSS reveals a better match between content, instruction and Deeper Learning outcomes than in the past.
- The shift to next-generation assessments, slated to launch at the start of the 2014-15 school year from the PARCC and Smarter Balanced consortia, provides additional evidence of the movement toward teaching and measuring Deeper Learning skills and dispositions.

Leading for Deeper Learning Outcomes

Whether in the development of a new school or the turnaround of a chronically underperforming existing school, leadership is an important part of the equation. The schools we have reviewed so far, as well as those that follow, reveal the importance of transformational leaders who keep students at the center of the school's mission.

The majority of schools we studied were purpose-built and more than half belong to school development networks committed to Deeper Learning instructional practices — two big advantages for leaders seeking to consistently challenge and engage students in meaningful work. For leaders working in existing schools that were not purpose built, there is still an opportunity for them to become purpose-led by meaningfully engaging the staff and the community in developing and building a plan around a vision for Deeper Learning outcomes.

School-wide adoption of Deeper Learning strategies and practices takes leadership. The profiled schools have an unusually high number of school-wide agreements. These are not schools where teachers are freelancing; they may have autonomy but they work together within a shared frame with common strategies and practices.

Add the rapidly increasing array of blended tools and strategies and the number of school-wide agreements doubles. As we noted in the Blended Learning Implementation Guide 2.0, big leadership decisions include goals, school model, platform and content, devices, staffing and staff development.

Leadership Levers

New Leaders created the Urban Excellence Framework to identify key levers for change. The primary drivers (shown in the exhibit below) are culture, learning and teaching. The last five common elements we found fall in this category. Supporting levers include aligned staff, operations and systems — the first five foundational elements in the list above.

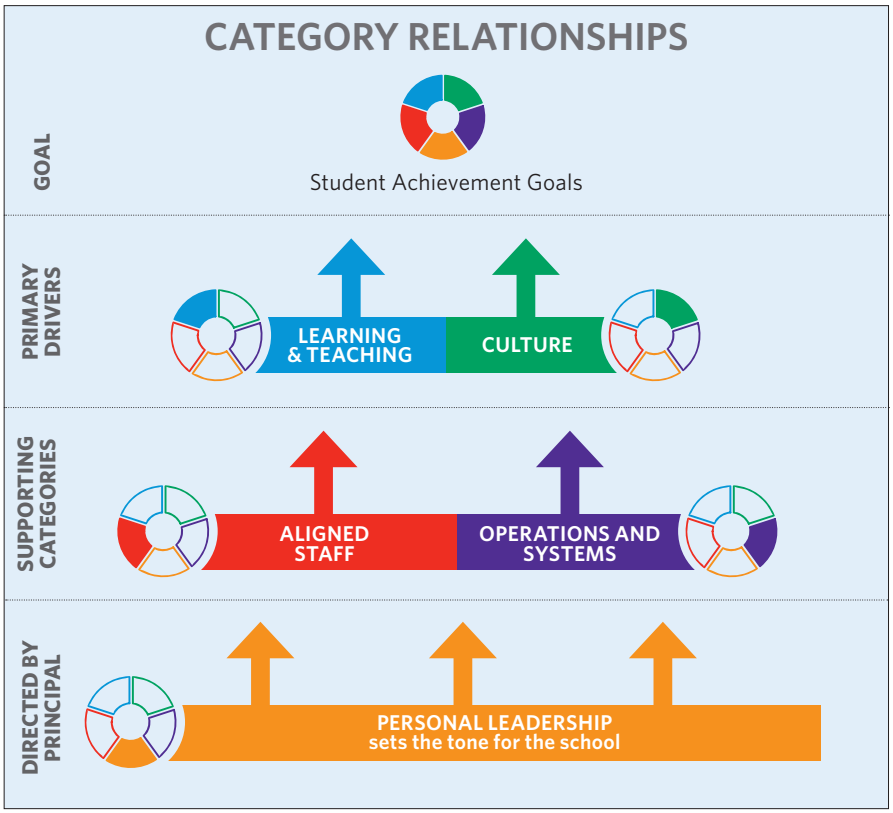

Figure 1: Urban Excellence Framework

Good schools have more school-wide agreements than schools on autopilot — that's particularly true for schools promoting Deeper Learning outcomes because they use sophisticated rather than scripted instructional strategies.

Incorporating blended learning strategies may double the number of school-wide agreements — it mucks around with all of the operations and systems. This is compounded by the fact that the opportunity set is evolving and suggests that these agreements must be frequently reconsidered.

The most important implication of this dynamic opportunity set is that school leaders need to be conversation leaders and agreement makers. They need to help their school communities become aware of the needs for high standards, strategic options and emerging opportunities. They need to craft temporary agreements that allow the school to move forward with the expectation that agreements will be reconsidered as opportunities and challenges warrant.

Agreement crafting is tough enough when we're talking about instructional strategies (e.g., projects versus direction instruction) but when you start experimenting with the operations and systems (e.g., standards-based grading and competency-based progressions), it gets everybody's attention.

Conversation leaders facilitate field trip leaders — one way or another they transport people to the desired future state. That may be visiting an innovative school, reading and discussing NGLC profiles, or sharing a virtual field trip to Carpe Diem in Yuma, Arizona. At Bracken STEAM, Principal Decker creates time during the day for teachers to take field trips to other classrooms in the school. The New Leaders report suggests that a principal's personal leadership is foundational for a school's success an observation confirmed by Decker's conversation leadership.

Leadership Stories

Larry Rosenstock of High Tech High is one of bridges from Ted Sizer to the future. In creating High Tech High, he incorporated and updated Coalition of Essential Schools principles. His network of 12 schools propels diverse students to and through college at an impressive rate — with about twice the average participating in STEM fields. He's building an online course to share his lessons learned. Rosenstock wants more, "Yes, this could be you" moments, where students can picture themselves doing interesting and important work. The following are ten design principles as described by Rosenstock:

1. When starting a school, ignore a few basic axioms. There are a lot of things you don't need: bells, public address system and separate bathrooms.
2. Keep it simple: complex structures drive complex behaviors.
3. Make it about adult learning.
4. People need to change conditions (Dewey); they should be in a constant state of reinventing things including themselves.
5. We should ask students to use your head, use your hands, make things and think about things.
6. We should think more about production technology than consumption technology.
7. Keep tinkering with your school, taking things apart and putting back together. Let people mix it up. Keep it interesting.
8. Balance stability versus churning–not unstable but not stuck.
9. Let students do most of the talking and adults do most of the listening.
10. Be about be revealing, about uncovering (not just covering content), ask students to do field work. Ask student to demonstrate their learning.

Kearny DMD uses an emphasis on "Habits of Mind" — significance, perspective, evidence, connection, supposition — developed by small-school reform leader Debbie Meier, combined with skill building and high expectations to help students develop an academic mindset.

VIDEO | TedxDenver Speech by Marc Chun

As part of her ongoing effort to lead her staff and students ever farther into Deeper Learning experiences, METSA's Director Tehrani spearheaded efforts during the 2011-12 school year to improve her students' literacy skills, enhance the rigor of their Project-Based Learning units and deepen their ability to think critically, knitting the entire initiative to the CCSS in reading and writing. She said, "The need for this initiative is self-evident. We had already adopted learning outcomes around student reading and writing. We know that this is a high-value skill for our state testing scores and every teacher understands that a student's reading level is closely related to how well they do in mastering other subject matter and their success in life. We believe that improving Project-Based Learning strategies to support student literacy across the curriculum is a great way to improve overall student success."

Policy Implications

It is important for schools, districts and networks to acknowledge the role of local, state and federal policies in the implementation of Deeper Learning instructional practices. It is equally important for policymakers and influencers to acknowledge the impact of policy decisions on schools.

Bringing Deeper Learning experiences to every student will necessitate shifts in policies related to student assessment, staffing, school funding, teacher preparation, professional development and more. Often, it is the elimination of existing policy barriers that can create the necessary policy space for educational innovation to thrive. For example, competency-based Deeper Learning instructional practices require the elimination of policy barriers around notions of seat time and student matriculation.

"How Digital Learning Contributes to Deeper Learning" lays out 10 recommended next steps for state, district, network and philanthropic leaders to expand Deeper Learning opportunities:[xx]

1. **Write the CCSS**: encourage more writing and explicit writing instruction
2. **Do science**: model instruction to match next-generation science standards
3. **Good tests**: support quality PARCC and Smarter Balanced tests and sound implementation
4. **Coherent state policy**: build upon frameworks such as Digital Learning Now! 10 Elements for High-Quality Digital Learning
5. **Intellectual mission**: support statewide authorization of Deeper Learning networks
6. **Extended reach**: support school models that use technology to leverage great teaching
7. **Deep, not shallow, blends**: provide incentives for school models that promote Deeper Learning outcomes
8. **Deeper Learning platforms**: sponsor the development and adoption of platforms that promote Deeper Learning instructional practices
9. **Leadership development**: support individual and cohort learning experiences for leaders
10. **Convene**: collaborate in person and online to share resources and form networks

CONCLUSION

We set out to identify schools that offer examples of high quality Deeper Learning instructional practices as a beginning and not an end. This project matters to us, not because we wanted to highlight 20 schools that are leading the way in their own communities, but because we want to shine a light on the greater potential of Deeper Learning experiences to reach every student, everywhere, every day. While collecting and reporting on forward-leaning schools is an important and worthwhile exercise, it is only one small fraction of our overarching, long-term goal to expand Deeper Learning outcomes at scale.

In order to keep us moving toward the goal of Deeper Learning competency for all, we must collect and disseminate examples of promising practices, create opportunities to learn from one another, challenge misconceptions about Deeper Learning instructional practices and then get to work by creating the conditions for success in our own communities. We must acknowledge existing barriers and be realistic about current implementation challenges.

Fullan and Langworthy identify four fundamental barriers that stand between the theory and practice of Deeper Learning, including inadequate development of the following:[xxi]

1. Policies and system-level strategies that enable diffusion;
2. Accepted ways of measuring Deep[er] Learning;
3. Adoption of new pedagogical models that foster deep learning; and
4. Knowledge of how students adopt deep learning practices.

New standards, new assessments, new instructional models and new technologies create an unprecedented moment in time to move education toward a more personalized, customized, student-centric system. We hope that these examples will inspire our readers and show the potential of Deeper Learning.

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Carri is the Director of Policy and Research at Getting Smart. With a background in both policy and practice, she has taught in classrooms from elementary schools to college campuses. Carri served as an online educator from 2005–2012 in a fully online master's program in educational leadership and has authored several pieces on the future of education. She co-edited the book Building a 21st Century U.S. Education System with Bob Wehling, published by NCTAF. Carri has been actively involved in supporting education policy efforts to advance digital and blended learning opportunities as a consultant to state and national organizations. She holds an M.Ed. in educational administration and an Ed.D. in urban educational leadership.

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Tom Vander Ark is author of Getting Smart: How Digital Learning is Changing the World and founder of Getting Smart, an education advocacy firm. Tom advocates for innovations that customize and motivate learning and extend access. Tom is also a partner in Learn Capital, an education venture capital firm investing in edtech start-ups. Previously he served as president of the X PRIZE Foundation and was the first executive director of education for the Bill & Melinda Gates Foundation. Tom served as a public school superintendent in Washington State and has extensive private sector experience. A prolific writer and speaker, Tom has published thousands of articles. He writes a daily EdWeek blog, Vander Ark on Innovation and makes regular contributions to GettingSmart.com. Tom is a director of the International Association for K–12 Online Learning (iNACOL) and several other nonprofits. Tom received the Distinguished Achievement Medal and graduated from the Colorado School of Mines. He received his M.B.A. in finance from the University of Denver.

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APPENDIX A:
DEEPER LEARNING SCHOOL PROFILES

HIGH TECH MIDDLE CHULA VISTA
KEARNY HIGH SCHOOL OF DIGITAL MEDIA & DESIGN
IMPACT ACADEMY
ANSON NEW TECHNOLOGY HIGH SCHOOL
IDEA COLLEGE PREP DONNA

HIGH TECH MIDDLE CHULA VISTA

Linking Hands and Minds Through Project-Based Learning

We believe deeply in empowering each of our unique students to explore their world and take ownership of their learning.
Andrea Morton, humanities teacher

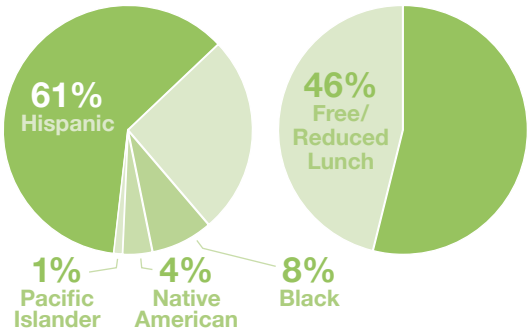
SCHOOL INFO:

Location: Chula Vista, CA
Type: Charter
Focus: Project-based, Hands-on Learning
Network: High Tech High

High Tech High is a network of schools spanning grades K-12 that prepares students for college and careers by providing a personalized hands-on approach to learning.

BY THE NUMBERS:

Date Opened: 2011
Grades Served: 6-8
Enrollment: 328
Teachers: 15
Students Demographics:



What is Deeper Learning?

Deeper Learning teaches students to master core academic content, think critically, solve complex problems, work collaboratively, communicate effectively, direct their own learning, and develop an academic mindset.

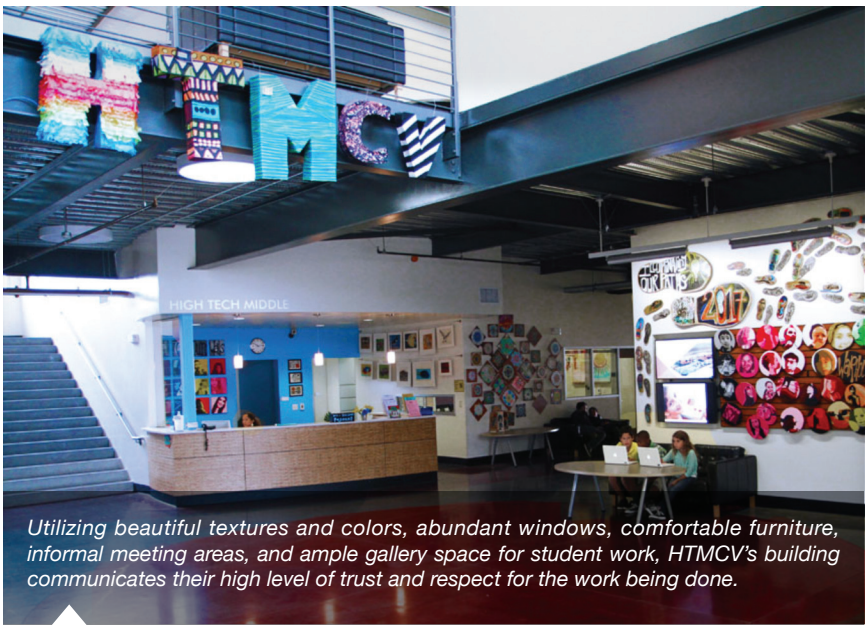
"All teaching and learning at High Tech Middle Chula Vista (HTMCV) is guided by the deep conviction that students learn more by directly experiencing and participating in the world around them," said sixth grade humanities teacher Andrea Morton.

The curriculum, co-designed by teachers with student input, is based on three High Tech High Design Principles:

- a common intellectual mission;
- an adult world connection;
- and a personalized learner-centered approach.

As such, it is designed to harness student passion and inspire them to develop the curiosity, knowledge, skills, and ambition needed for successful adulthood.

With those goals in mind, students participate in Project-Based Learning experiences that engage them in the Deeper Learning activities by solving complex, open-ended problems. Morton noted that students often have the opportunity to work with local business professionals and other community members as they develop their critical thinking, critique, and presentation skills. In the process, they create beautiful, relevant work to share in the "real world."



Utilizing beautiful textures and colors, abundant windows, comfortable furniture, informal meeting areas, and ample gallery space for student work, HTMCV's building communicates their high level of trust and respect for the work being done.

Student Spotlight:

Eliana smiles outside one of the hands-on classrooms at HTMCV.

"I have never worked so hard," said then-sixth grader Eliana Bentley about the play she wrote and directed to demonstrate her understanding of life in ancient Rome. "I really did put all my heart into it."

Eliana is a bright and determined student, who is recovering from years of undiagnosed celiac disease, which caused severe challenges in her visual processing and auditory memory. Her mother noted that despite still feeling sick and tired much of the time; Eliana has thrived thanks to HTMCV's hands-on personalized learning environment. She was able to learn in the modality that worked best for her and received targeted support from teachers. "She had been so discouraged by her previous experience that she had given up and formed a self-image of being an incapable outcast." Her mother has also noted an exponentially increasing desire to learn and participate in school since Eliana came to HTMCV.

As Ms. Morton puts it, by being encouraged to tap into her inherent abilities, Eliana now leads her class as a writer and knows she has a powerful voice the world wants to hear.

ENGAGING STUDENTS THROUGH PERSONALIZED AND PROJECT-BASED LEARNING

Students are strongly encouraged to take responsibility for their own education within a highly personalized, Project-Based Learning environment in which each individual is well known by his or her teachers and challenged to meet high, but attainable, expectations. This has fostered an environment where, with the support of teachers, students are able to uncover their interests and harness them to develop the curiosity, knowledge, skills, and ambition needed for a successful transition into adulthood.

Learning is also personalized by giving students "voice and choice" within project work, which allows them to explore their passions and interests. Students are given opportunities to explore subjects they are passionate about, while studying and following a rigorous process of evaluating the credibility of a source, conducting field interviews, and creating, implementing, and evaluating surveys. This research process allows students to develop an academic mindset paired with personal interests.

To meet the needs of the diverse student population at HTMCV, teachers constantly monitor student performance and quickly modify instructional strategies. If students don't understand concepts or need extra help, teachers offer after-school tutoring as needed. "Because we are dedicated to providing a personalized environment for our students, we are constantly finding new ways to change or individualize how we teach. We aim to scaffold our projects and provide multiple entry points for all students, leading toward quality products and outcomes in which the content is fully understood."

Teachers work collaboratively across content areas to develop projects that focus on collaboration as well as mastering the skills necessary for each subject. In all classrooms, inquiry-based study engages student interest and encourages the development of essential skills such as cooperation, collaboration, and effective communication.

Performance-based assessments are a major aspect of academic life at HTMCV. With that in mind, students work on purposeful and engaging projects and present their findings in such a way as to demonstrate their ability to apply what they have learned. These authentic projects task students with solving real world problems to create a deeper understanding of various concepts.

All of this work is assessed in multiple ways. Each fall, students facilitate a conversation in which they reflect on their educational progress. At the end of each semester, students lead formal Presentations of Learning (POLs) where they demonstrate their work to a panel of teachers, parents, peers, and community members. Through these POLs, students develop presentation skills while reflecting upon their learning and growth.

HTMCV, along with the eleven other HTH schools, strives to be a powerful community of learners, with adults learning alongside students. As part of this mission, HTH features a Graduate School of Education (GSE) embedded within its K-12 schools. At any given time, a majority of HTH teachers are involved in adult learning in some way: as graduate students, GSE faculty, interns, or mentors. In addition to pushing their own practice, adult learners at HTH model what it is to be a curious, intellectual, and reflective adult, which inspires students to do the same.

GETTING SMART
Think. Learn. Innovate.

GettingSmart.com
Deeperlearning4all.org

High Tech Middle Chula Vista
1949 Discovery Falls Drive
Chula Vista, CA 91915
www.hightechhigh.org/schools/HTMCV

KEARNY HIGH SCHOOL OF DIGITAL MEDIA & DESIGN

Teachers as Coaches, Not Repositories of Knowledge

> *Our teachers share a common belief that all students are capable of meeting state academic performance standards.*
>
> *Principal Cheryl Hibbeln*

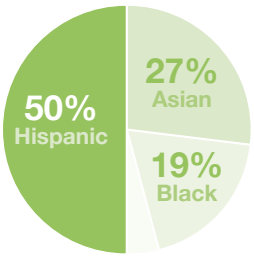
SCHOOL INFO:

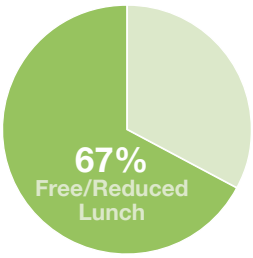
Location: San Diego, CA
Type: District
Focus: Digital Media
Network: ConnectEd/Linked Learning

Linked Learning brings together rigorous academics, technical education and work-based learning to provide real-world experiences that allow students to develop relationships with teachers, community and business mentors, all focused around college and career success goals.

BY THE NUMBERS:

Date Opened: 1941/2004
Grades Served: 9-12
Enrollment: 447
Teachers: 19
Students Demographics:





What is Deeper Learning?

Deeper Learning teaches students to master core academic content, think critically, solve complex problems, work collaboratively, communicate effectively, direct their own learning, and develop an academic mindset.

In 2004, the staff of Kearny High School created the Kearny Educational Complex—four small autonomous high schools, each with a different industry theme: Digital Media and Design (DMD); International Business; Science, Connections and Technology; The Stanley E. Foster Construction Technology Academy.

These four schools have adopted a student-centered approach to teaching, teacher collaboration through common prep planning periods, and a focus on engagement through real world Project-Based Learning which have all contributed to an overall rise in student achievement.

The development of an academic mindset, the belief in one's academic abilities and persistence in the face of obstacles, can be a significant challenge for Kearny's students, many of whom come into high school at well below normal expectations for their grade level. Principal Cheryl Hibbeln and her staff tackle this issue through an intentional multi-grade approach, and common instructional expectations. "Our teachers share a common belief that all students are capable of meeting state academic performance standards, and they hold students accountable to those standards," she said.

DMD emphasizes Debbie Meier's book, *Habits of Mind*—significance, perspective, evidence, connection, supposition—combined with skill building and high expectations to help students develop an academic mindset.

Students at DMD are Expected to Demonstrate:

- Critical thinking by comprehensively exploring issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
- Creative thinking by working in an imaginative way characterized by a high degree of innovation divergent thinking, and risk taking.
- A thorough understanding and use of the production process as they create high level media based projects and other complex assignments.
- Civic engagement by promoting the improvement of the quality of life in a community, through both political and non-political processes.
- Personal, cultural, and academic preparation for college and other postsecondary opportunities through the self-authorship of a personalized and appropriate four-year plan.

Student Spotlight:

As a student at Kearny High, Ashleigh Bugos, who graduated with the class of 2013, has "earned the respect of her teachers and fellow students," said teacher Lisa McCall. "She works hard and will accomplish great things."

Sometimes student challenges extend beyond academic support. "Students must address the real-world and complex issues that face local and global communities," Principal Hibbeln said.

According to math teacher Lisa McCall, Ashleigh Bugos is a student that has been applying those lessons in and out of the classroom. Financial challenges caused her family to move six times during the second half of her high school career, with one location requiring a three-hour bus trip to school each way. Currently, they live in a shelter. Yet Ashleigh continues to excel academically, serve as a school leader, and tutor students struggling with her best subject—math.

Ashleigh's grit is indicative of her strong work ethic, but the support, sustained relationships, and high expectations at Kearny contribute to her continued success at applying her skills to help meet the challenges of her daily life.

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Kearny High School of Digital Media & Design
7651 Wellington Street
San Diego, CA 92111
www.sandi.net/kearnydmd

PROJECT-BASED LEARNING AT ITS BEST

The mission at DMD is to develop exemplary communication skills in students through authentic, media-based experiences in an environment of high academic and social expectations. In that pursuit, DMD emphasizes Project-Based Learning which encourages the transfer and application of knowledge obtained in the classroom to the interdisciplinary projects students must complete each year. These projects integrate elements from each of their core courses and "require students to make connections between multiple subjects and a real-world problem," said Principal Hibbeln.

These projects, and the essential questions that underlie their creation and completion, help students address the complex issues that face both local and global communities. Each grade focuses on a different issue:

- **Freshmen**: Students research how human attitudes and choices affect sustainability and environmental issues in the local San Diego region and propose a "Plan for Change" to the San Diego City Council.
- **Sophomores**: Students investigate supporting sustainable global population growth through the creation of an informational public service announcement and a website that is assessed and approved by their client.
- **Juniors**: In the fall, students prepare print and media campaigns for the Surfrider Foundation, a group dedicated to the enjoyment and projection of the world's oceans, waves and beaches. In the spring, students participate in the Green Students Youth Forum for the City of San Diego's Environmental Department and San Diego Gas & Electric. During the project, students research the impact of their choices on issues of social and environmental justice, and meet with local officials to learn more about issues such as climate change, energy efficiency, and "green" career paths.

The completed work must be vetted and approved by the outside organization for which it was created—the client. This gives students real world experience as they communicate and collaborate with each other and other stakeholders in their effort to satisfy the client. And sometimes they have to go back and make changes or even start over, just as they would if they were being paid for their digital media and design expertise.

In addition to traditional forms of assessment such as exams, essays, presentations, lab reports, research papers, and the like, Hibbeln said students must use academic and industry standards to develop outcomes that demonstrate high level content mastery and serve the needs/demands of their client.

One of the school's goals is the development of critical thinking skills. In support of that progress, students are given questions to grapple with in class. In addition, they are specifically taught analysis and evaluation skills. Their projects are designed to promote multiple perspectives, solutions, and outcomes, with all conclusions being supported by evidence. "All students must defend their competency in critical thinking at the end of each school year, and progress is measured against grade level rubrics," said Hibbeln.

Students are also required to develop the strong interpersonal communications skills that are required in the DMD industry, which relies heavily on teamwork to create completed projects. "Although the digital media classes are the hub for this collaborative work, collaborative work on grade level projects takes place in all core classes as well. Math, science, English language arts, and social studies classes include student collaboration as a portion of each lesson. To ensure that students are supported in teams, teachers share a common prep to plan, assess, and implement coordinated and appropriate strategies," Hibbeln said.

IMPACT ACADEMY OF ARTS & TECHNOLOGY

Know, Do, Reflect

We are transforming the lives of our students – most of whom are from traditionally underserved communities – by making sure they are ready to succeed in college.

Gia Truong, Superintendent

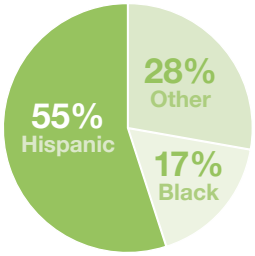
SCHOOL INFO:

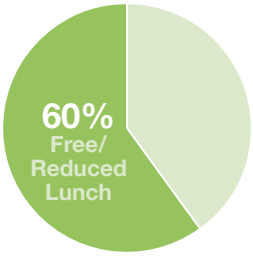
Location: Hayward, CA
Type: Public Charter
Focus: Arts & Technology
Network: Envision Education

At Envision's three small, urban public schools in the San Francisco Bay Area, students master academic content, apply that knowledge to real-world situations, and discuss and analyze how and what they are learning to promote self-direction.

BY THE NUMBERS:

Date Opened: 2007
Grades Served: 9-12
Enrollment: 469
Teachers: 22
Students Demographics:





What is Deeper Learning?

Deeper Learning teaches students to master core academic content, think critically, solve complex problems, work collaboratively, communicate effectively, direct their own learning, and develop an academic mindset.

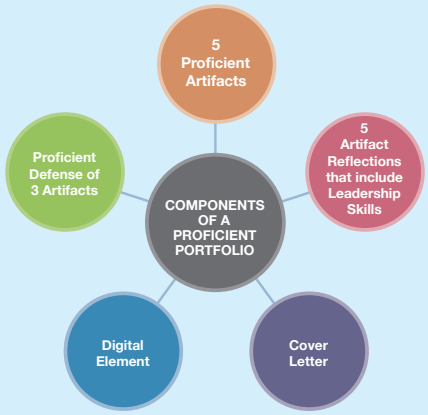
As part of Envision Education, Impact Academy is mission-oriented, and their mission is to prepare students for success in college, career, and life. One of the things Superintendent Gia Truong is most proud of is the high level of teacher dedication and individual attention to students, which gives each student a rich transformative education experience.

"We specifically target students who are the first generation to go to college in their families and then we focus on both skills and experience," said Truong. "Some schools focus more on skills, some focus more on experience; we focus on both in order to make sure that our graduates are really college ready."

The idea that students learn most effectively when the coursework is engaging and relevant to their lives is central to project-based learning. "Our students put their knowledge to work while tackling complex, real-life problems and questions. Throughout each project, they demonstrate mastery of academic content and essential skills in art, math, literature, science, and more. Many of these projects conclude with a public exhibition in which students present their work to their peers, teachers, and families," Truong said. In fact, at the end of their senior year each student makes a "dissertation-style defense" to prove that the work they have done is sufficient to meet the core competencies required for graduation.

Components of an Impact Portfolio:

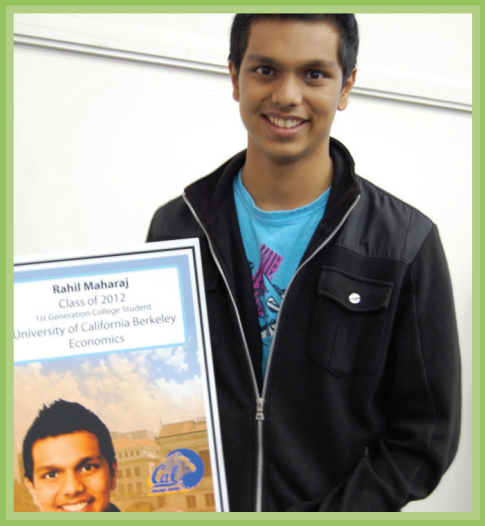
The requirements for a complete and proficient portfolio are as follows:



The portfolio includes a proficient artifact per competency (research, inquiry, creative expression, analysis) plus WLE (total = 5 artifacts).

1. Each artifact must come from a different subject area. For example, if a science artifact is used for research, then a social studies artifact must be used for Inquiry.
2. WLE cannot be the sole artifact for competency, it's in addition to the subject-specific artifact (although WLE will not be assessed using a research inquiry, creative expression or analysis rubric).
3. Each artifact is tied to at least one leadership skill and all leadership skills must be represented.

Student Spotlight:



Today, Rahil is a student at UC Berkeley, majoring in engineering.

Rahil's family immigrated to the US when he was in 8th grade. At first, he struggled academically. He knew his parents had moved here to make college possible for him – and he wasn't sure he would make it. Coming to Impact was the key to turning things around for him. "I was given a chance to start over," he says. At Impact, he learned more than academic content. He also learned leadership skills: how to collaborate productively, think critically, communicate powerfully, and complete projects effectively.

For Rahil, Deeper Learning means going beyond the content, it means using personal experiences as well as knowledge from other sources to fully understand a subject. It means to internalize information, and be able to use it outside the classroom walls.

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Impact Academy
2560 Darwin Street
Hayward, CO 94545
www.es-impact.org

CREATING ACADEMIC MINDSETS TO ENSURE SUCCESS IN COLLEGE AND CAREER

According to Superintendent Truong, the entire Impact Academy educational design is based on encouraging critical thinking and creative expression. "We focus on analysis, inquiry, creative expression, and research, and students have to demonstrate those skills in order to progress. As a result, our teachers must plan experiences for their students that demonstrate those skills."

In addition to the "dissertation-style defense" each senior completes prior to being cleared for graduation, all tenth graders must complete and defend a portfolio of their work to a panel of teachers at the end of the year. This demonstrates their readiness for 11th grade. "It is through these capstone activities that our students develop 21st century leadership skills such as productive collaboration, effective project management, clear communication, and critical thinking—all of which are essential for success in the real world," said Truong.

Through the portfolio project and panel presentations, students develop skills such as productive collaboration, effective project management, clear communication and critical thinking-all of which are key ingredients to creating informed and engaged citizens of the future; as well as the traits that today's business leaders look for in their employees.

Noting a strong culture of revision, Truong explained that students have to defend their work, and that they will not pass until they can prove mastery. The portfolio system strives for competency and requires students to continue to work and revise repeatedly so they learn to persist and to accept and use feedback.

This is all intended to help students understand how they learn best, discover who they are as students, and develop an academic mindset, all of which will help them succeed in college and beyond. "Students are encouraged to know, do, and reflect," said Truong. "The reflection piece is critical and Impact emphasizes the importance of combining knowledge and skills and building the ability to apply that to new situations and problems."

In eleventh and twelfth grade, all students participate in the Workplace Learning Experience (WLE). For three months, they work one day a week as an intern at a business, government agency, public agency, non-profit etc. within their local community. In order to secure a WLE, they must write and send out resumes and cover letters, then interview with potential mentors. "We encourage them to seek an internship in a field of interest, and the WLE helps many students identify their ideal career—or find out what they don't want!" Truong said. At the end of their internship, students present their experience in a public exhibition. "It's a powerful experience that equips students with job search practice, self-confidence, and first-hand exposure to a career field."

Educating urban students, most of whom will be the first in their families to complete high school and/or go to college, is "really, really complex," said Truong. She attributes much of their success in this difficult endeavor to the fact that Deeper Learning is at the core of what they do. "We are a skill-based institution, so students can access rich content and experience the Deeper Learning that comes from that type of experience in each content area."

ANSON NEW TECHNOLOGY HIGH SCHOOL

Leaders of the Pack

Anson New Technology High School provides a 21st-century education embedded in a culture of trust, respect and responsibility.
Principal Chris Stinson

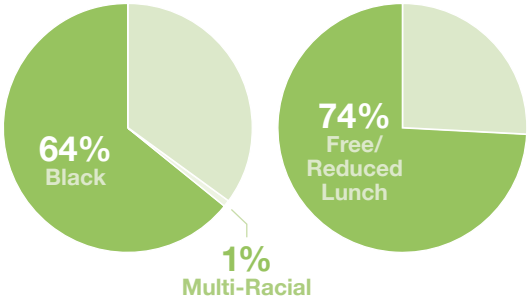
SCHOOL INFO:

Location: Wadesboro, NC
Type: Public
Focus: Project-Based Learning
Network: New Tech Network
District: Anson County School District

New Tech Network consists of 130 academically-rigorous schools that feature pervasive use of Project-Based Learning and technology, along with a positive and engaging school culture.

BY THE NUMBERS:

Date Opened: 2007
Grades Served: 9-12
Enrollment: 155
Teachers: 7
Students Demographics:



What is Deeper Learning?

Deeper Learning teaches students to master core academic content, think critically, solve complex problems, work collaboratively, communicate effectively, direct their own learning, and develop an academic mindset.

According to Principal Chris Stinson, Anson's Project-Based Learning approach means students identify a globally important issue such as climate change and then work to solve it.

For example, students in Stephanie LaBree's biological studies class complete a unit of study she created on how food is broken down and used in the body. From this, students understand the importance of what they eat. They are evaluated through projects that focus on mastering all of the Deeper Learning outcomes.

Critical thinking is encouraged through the design of the rubrics used to assess student projects. A student is evaluated and considered proficient, advanced, or unsatisfactory. The proficient section of the rubric represents mastery of the state standards and the advanced section represents the ability to apply that knowledge to another situation. Unsatisfactory means the student will be given an opportunity to go back and try their project again.

"We also focus on questioning," said Stinson. "We answer a student's questions with questions, and teachers discipline themselves to ask students 'why?' at least three times in order to assess understanding by eliciting the critical thinking, problem solving, and effective feedback producing aspects of Deeper Learning."

The MSNBC town-hall style show, A Stronger America: Making the Grade in Detroit, featured a panel of education experts. Anson New Tech was featured as an example of a successful school.

Student Spotlight:

(From left) student Casey McElroy; Eustace Conway, from the TV show Mountain Men; and student Matt Carpenter (right) at the launch of Living off the Land 2.0, a locally-based, student-created and operated sustainable agribusiness.

The *Living Off The Land 2.0* project was designed to help students foster an understanding and appreciation of agriculture, health, and economic development, and was kicked off by television star Eustace Conway of *Mountain Men*, a show about living off the land.

The project has three phases: planning and preparation, which entails researching, designing, and laying out the vision for students' agribusinesses; construction, which involves building fences, greenhouses, and other necessary infrastructure; and implementation and sales, which will require students to plant, grow, and then sell their products and collect seeds for future use. The project requires critical thinking, collaboration, communication, and self-direction. This locally-based, student-created and operated sustainable agribusiness demonstrates the Deeper Learning concepts put into action outside the classroom.

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118 West Ashe Street
Wadesboro, NC 28170
www.ansonschools.org/home

USING PROJECT-BASED LEARNING TO HELP STUDENTS GRADUATE CAREER AND COLLEGE READY

Anson New Tech is a prime example of the benefits of Deeper Learning. The school has helped students in their small, extremely poor rural community to graduate with the skills they need to be successful in life. As an NTN demonstration site, Anson welcomes visitors who are looking to see the New Tech Network Deeper Learning network in action.

"Our students are taught to become independent researchers who must ask questions in order to learn," said Principal Stinson. "They are taught early on that, while the answers may easily be found on Google, they must then think critically in order to validate those answers." He notes that learning in this type of environment, one that does not teach at you but rather empowers you to learn fosters collaboration between students as well as with members of the local community.

Students focus on the Deeper Learning core competencies in addition to the school's eight 21st-century learning outcomes: written communication, oral communication, collaboration, technology literacy, work ethic, content proficiency, critical thinking, and global awareness.

"Students here are given relevance along with rigor," said Stinson, and offers the school-wide farm project as an example. Students create their own agribusiness, the plans for which must be presented to a team for review before implementation. Students use hydroponics, aquaponics, and other forms of sustainable farming, and are employing solar-power and other alternative energy sources for their greenhouses and other energy needs. Throughout the project students are thinking critically, working collaboratively, and communicating effectively all while mastering core academic content-a perfect example of Deeper Learning.

Teachers at Anson often team-teach, integrating related subjects such as world geography and earth science or American literature and American history. In addition, business and community members are so often part of the learning process that Stinson says, "they have been trained now so when they have a problem, they come to us to solve it." Anson students are able to tackle real-world issues and solve problems through community projects.

Students are encouraged to become active in community projects to expand their learning opportunities. For example, Anson students have programmed a metal fabrication robot welder, created an entire light and sound system for the local arts council, culled through and updated old computers for a local Pre-K program, and submitted seating capacity and layout suggestions for a potential agri-civic center currently under consideration by the county. By integrating real problems into the curriculum and having students work on solving them, Stinson says his team keeps their students headed toward the type of real working knowledge they can use in and after college.

Anson has designed its curriculum so that students who graduate will qualify for college admission. Although the choice of higher education is completely up to each student, those who don't attend college will still have skills that make them extremely marketable. Every student leaves Anson with the ability to collaborate with others and articulate their thoughts, they are globally aware, technically literate, and punctual – all of which are qualities that students will need to succeed in today's economy.

IDEA COLLEGE PREP DONNA

Develop Leadership, Social, and Academic Skills

Prepare students from underserved communities for success in college and citizenship.

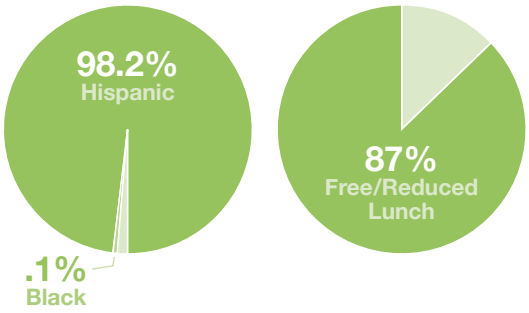
SCHOOL INFO:

Location: Donna, TX
Type: Public Charter
Focus/Network: IDEA Public Schools

Beginning as an after-school program, Donna IDEA became a charter school in 2000. IDEA Public Schools is now a south Texas network of 15 schools that prepare students from underserved communities for success in college and citizenship.

BY THE NUMBERS:

Date Opened: 2000
Grades Served: 6-12
Enrollment: 797
Teachers: 50
Students Demographics:



What is Deeper Learning?

Deeper Learning teaches students to master core academic content, think critically, solve complex problems, work collaboratively, communicate effectively, direct their own learning, and develop an academic mindset.

"The mission of IDEA College Prep Donna, and IDEA Public Schools as a whole, is to prepare students from underserved communities for success in college and citizenship," said Principal Christina Cavazos-Escamila. "We live out this mission by creating a positive learning environment for students and developing their leadership, social, and academic skills."

IDEA Donna offers the International Baccalaureate (IB) Middle Years and Diploma Programmes in grades 6-12. Teachers determine individual learning goals for their students by evaluating where they are and comparing that to where they need to be in order to demonstrate content mastery. They spend a lot of time preparing students for IB courses in their areas of strength and rigorous courses in areas where they need growth and development.

In each class, students must master content and demonstrate critical thinking skills. Cavazos-Escamila said, "in history classes, students analyze different sources and demonstrate the skills of an historian at a high level—they do not simply memorize facts. In science, not only do students conduct lab experiments, they also design the experiments and evaluate their experiences."

In addition, teachers use IB rubrics that set high expectations and to ensure consistency in their evaluation of student work. Teachers are then evaluated on how well they utilize those rubrics, establishing a standard of evaluation throughout the school.

The core values at IDEA Donna are clearly outlined for every student and staff member to understand and exemplify.

Student Spotlight:

For the past seven years, 100 percent of graduates of IDEA Donna have gone to college; many are the first in their families to do so. This requires extensive preparation. Starting in sixth grade, all students participate in the Road to College curriculum, which was developed in partnership with Uplift, another IB network in Dallas. It includes extended discussion about what is required for academic success and the special barriers faced by socio-economically disadvantaged students. Full-time college counselors help students research and apply to schools, navigate financial aid applications, and help students and their families through the departure process.

The college-going culture is reinforced by College Field Lessons, beginning in third grade. Through these College Field Lessons, IDEA schools take students to college/university campuses, historical landmarks, and museums across the country on excursions that last between a day and a week. While these are often students' first trips away from their families, by the time they are seniors they will have visited over 25 campuses and will be comfortable with the idea of going out on their own, handling the complex academic and social challenges of college, and taking charge of their educations and their futures.

The 100 percent college-bound graduating class of 2013 celebrating their achievement.

TEACHER AND STUDENT SUCCESS IN A COLLABORATIVE ENVIRONMENT

Having a strong academic mindset is richly embedded in the school's culture. This is encouraged through rigorous coursework and celebration of academic achievement.

According to Cavazos-Escamila, "when students evaluate their own work, it enables them to take ownership of their own learning, understand their strengths, and identify areas to work on." One way the school's culture is reinforced is through the weekly recognition of students who analyze and provide rationale for their work, a great example of what a "thinker" looks like.

In all classes, students read and dissect college-level texts and synthesize the information into their own work. Different classes work together to analyze various topics, address complex problems, work independently and in groups, and communicate their understanding to their teachers and peers. For example, history, art and Spanish teachers work together on the Mexican Revolution, students analyze the revolution in comparison to others and conduct an in-depth historical analysis of its context, activities, and outcomes. They explore influences on Mexico today and apply their learning by projecting what the next several years there might look like. They also create original artwork depicting a specific viewpoint from the revolution. In all of these classes students consistently address complex problems, work both independently and in groups, and effectively communicate their understanding to their teachers and fellow students.

The collaborative work environment is another important aspect of IDEA Donna's culture. According to Cavazos-Escamila, "Students work collaboratively throughout the year and much of the work that they do requires peer feedback." They ask for feedback from their peers in all stages of the writing process. They also participate in group projects in science in which part of their evaluation rests on how they worked as a team. Students taking higher-level classes are paired with those in standard-level courses to provide feedback and offer assistance. This creates a collegial working environment in which each student uses his or her individual strengths to help others to succeed.

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IDEA College Preparatory Donna
401 S. First Street
Donna, TX 78537
www.ideapublicschools.org/Domain/58

APPENDIX B:
THE HEWLETT FOUNDATION DEEPER LEARNING NETWORKS

ASIA SOCIETY
BIG PICTURE LEARNING
ConnectED/LINKED LEARNING
EDVISIONS SCHOOLS
ENVISION EDUCATION
EXPEDITIONARY LEARNING
HIGH TECH HIGH
INTERNATIONALS NETWORK FOR PUBLIC SCHOOLS
NEW TECH NETWORK
NEW VISIONS FOR PUBLIC SCHOOLS

Asia Society
Partnership for Global Learning

DEEPER LEARNING NETWORK SPOTLIGHT

ASIA SOCIETY

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

WHAT IS THE DEEPER LEARNING NETWORK?

A national "Deeper Learning Network" of more than 500 schools is delivering deeper learning to students in forty-one states. Composed of ten school networks it collectively serves more than 227,000 students, most of whom are low-income minority students. Each school network has a unique approach, but all foster the deeper learning skills that prepare young people for economic and civic success.

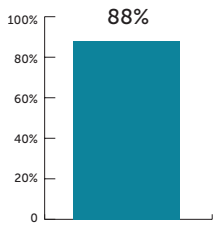
THE NETWORK: Asia Society, Big Picture Learning, ConnectEd/Linked Learning, EdVisions Schools, Envision Education, Expeditionary Learning, High Tech High, Internationals Network for Public Schools, New Tech Network, and New Visions for Public Schools.

www.deeperlearning4all.org

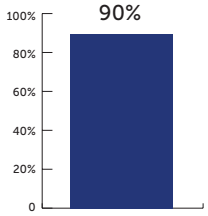
Asia Society's International Studies Schools Network (ISSN) is a national network of design-driven public, charter and private schools committed to developing college-ready, globally competent graduates. The ISSN works with school communities to prepare students for work and civic roles in a globalized environment, where success increasingly requires deeper learning skills such as collaboration, critical thinking and teamwork. The ISSN has worked particularly hard to overcome chronic poor performance among low-income and minority students.

ASIA SOCIETY GRADUATES ARE COLLEGE-BOUND

Graduation rate



College acceptance



AN EMPHASIS ON GLOBAL COMPETENCY

Students learn to communicate and collaborate across cultures through an academically rigorous, globally-focused curriculum where students learn through experience, rather than through textbooks, by solving real-world problems – this is also called problem-based learning. Students' learning is measured using authentic assessments, i.e. their ability to demonstrate what they can do with their knowledge and skills. Students also complete four years of required language courses, with a daily focus on global citizenship through real-life learning experiences such as Model United Nations. Additionally, students complete projects that relate to global issues, and they compile the best examples of their papers, reports and other materials into what is called a learning portfolio. Students learn to work collaboratively with individuals from diverse cultural backgrounds. This prepares them to navigate the challenges of cross-cultural communication and daily living in a diverse environment. Students round out their study program through internships and by volunteering in their communities, where they provide service but also learn while doing their work; study abroad language immersion; and several options for advanced level courses (e.g. dual credit and Advance Placement).

LEARNING THROUGH PROJECTS

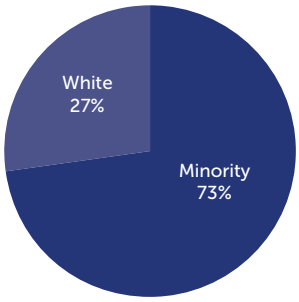
Project-Based Learning sparks students' interest and engagement. As they design unique portfolio projects during daily student advisory periods, or work on senior capstone projects, students learn how to

DEEPER LEARNING IN ACTION

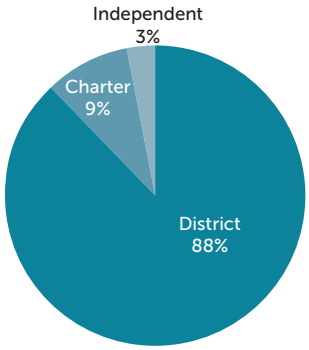
Students at two ISSN public schools are extending their learning beyond the walls of their classroom through a partnership with a learning center for the poor in a slum of Bangalor, India to raise awareness about global living conditions. Students first learned statistics about the global rise of "mega-slums" and were also exposed to contemporary artists who were engaged with these issues. They then collaborated with the learning center to share images, art and stories about everyday lives, and encouraged students to participate in a global conversation on how the majority of the world's population lives and what can be done to improve daily life. Moving from learning about an issue to applying that knowledge in the real world is exactly what deeper learning is about.

16,800+ STUDENTS *in* 32 SCHOOLS *across* 8 STATES

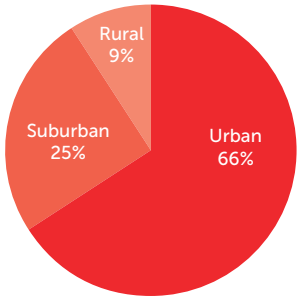
DEMOGRAPHICS:



GOVERNANCE:



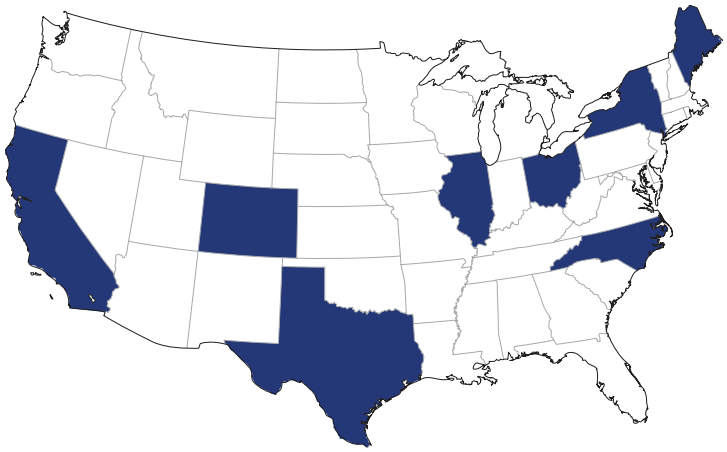
LOCATION:



Additional demographics:

63% Free or reduced lunch

16% English-language learners



3 ELEMENTARY SCHOOLS

3 MIDDLE SCHOOLS

7 GRADES 6-12

19 HIGH SCHOOLS

solve problems, think critically, and reflect on the work they have done throughout the year. They analyze and evaluate global issues from multiple perspectives, based on relevant information gathered and synthesized from sources around the world. Students might examine the question, "'Do we have a stereotypical view of Africa? Why? Why not?" Students engage in reflection using the ISSN Graduate Profile to assess their global competency, for example in foreign language literacy, understanding of global interconnectedness, media literacy, and cross-cultural collaboration.

A COMMITMENT TO EXCELLENCE AND EQUITY

The ISSN is committed to serving the needs of low income and minority students in urban, suburban, and rural communities. Network-wide, ISSN schools serve students in grades K-12, 78 percent of whom are minority students and 65 percent are students from low-income families. A combination of rigorous curricula, assessment and instruction, inclusive school culture, family and community involvement, and experiential learning results in students who are doing better academically and graduating at greater numbers than their peers. In an average Asia Society International Studies School the graduation rate is 88 percent. Nearly 90 percent of ISSN graduates are accepted to two or four year colleges – a testament to students seeing the importance of pursuing postsecondary education.

TEACHER PROFESSIONAL DEVELOPMENT

Fostering an environment of deeper learning demands committed professionals. Teachers at ISSN schools engage in on-going professional development. They mentor one another, observe each others' lessons, give constructive feedback to improve instruction, study together to stay abreast of the latest research and instructional strategies, and collaborate with teachers locally and nationally through the Network. Teachers are willing to engage in international learning experiences and model for students how to be receptive to the perspectives of others. In this way they exemplify the very aspects of deeper learning they are seeking to develop in their students.

COMMON CORE AND MORE

ISSN schools employ the Graduation Performance System (GPS), a performance assessment system through which teachers engage students in Project-Based Learning and standards-based evaluation of their work. While aligned to the Common Core State Standards, the GPS goes beyond with the addition of the element of agency, where students not only analyze and interpret information, but engage in advocacy or action based on their own interests. Students develop personalized service projects such as raising awareness about water crises globally, or child abuse locally. In these projects they master the content, use critical thinking and communication skills, and navigate the ups and downs of working collaboratively with a wide range of people. All these activities prepare them well for success in college and careers.

Network operator type:
Professional Development Provider

Founded: 2003

Headquarters:
New York, NY

Website: www.asiasociety.org/education/international-studies-schools-network

Phone: (212) 327-9208

Email: bwiley@asiasociety.org

Twitter: @AsiaSocietyPGL; @bwileyone; @ISSN

Learn more about Asia Society's students:
http://asiasociety.org/education/international-studies-schools-network/international-studies-schools-network

BIG PICTURE LEARNING

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

WHAT IS THE DEEPER LEARNING NETWORK?

A national "Deeper Learning Network" of more than 500 schools is delivering deeper learning to students in forty-one states. Composed of ten school networks it collectively serves more than 227,000 students, most of whom are low-income minority students. Each school network has a unique approach, but all foster the deeper learning skills that prepare young people for economic and civic success.

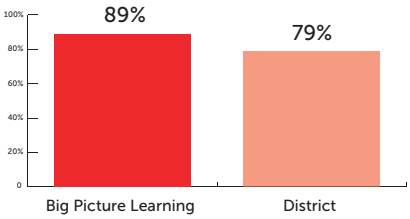
THE NETWORK: Asia Society, Big Picture Learning, ConnectEd/Linked Learning, EdVisions Schools, Envision Education, Expeditionary Learning, High Tech High, Internationals Network for Public Schools, New Tech Network, and New Visions for Public Schools.

www.deeperlearning4all.org

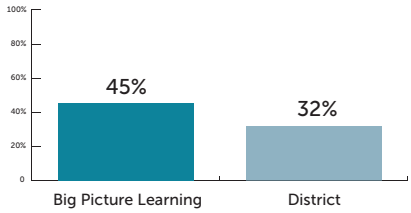
Big Picture Learning supports a network of fifty-six public schools located across the United States and a growing number internationally. Founded in 1995, Big Picture has refined and expanded its innovative public school design, which connects high school and college, to include support of urban and rural student populations. The core of the design is creating a learning program for each student, based on his or her academic and career interests and needs and on addressing essential learning standards. Big Picture Learning schools promote learning goals to develop critical thinking, quantitative reasoning, communication, and collaboration.

BIG PICTURE LEARNING STUDENTS OUTPERFORM THEIR PEERS IN CORE ACADEMIC SUBJECTS

English Language Arts



Math



PERSONALIZED LEARNING

The curriculum, learning environment, and use of time during the school day at Big Picture schools are determined based on the student's individual interests, talents, and needs. Students have the option of taking academic workshops at school or of taking college classes if they are ready for the work and the subject is one they wish to study. Big Picture Learning believes that personalizing education is about doing what's best for kids—pushing and pulling at the right time, helping them solve problems, and providing the right measures of challenge and support for each student in order to promote growth. Students take responsibility for and ownership of their learning by pursuing their interests and passions in the real world; they develop skills in school-based settings as well as through learning experiences outside of the school building, school day, or the academic year.

LEARNING IN THE REAL WORLD

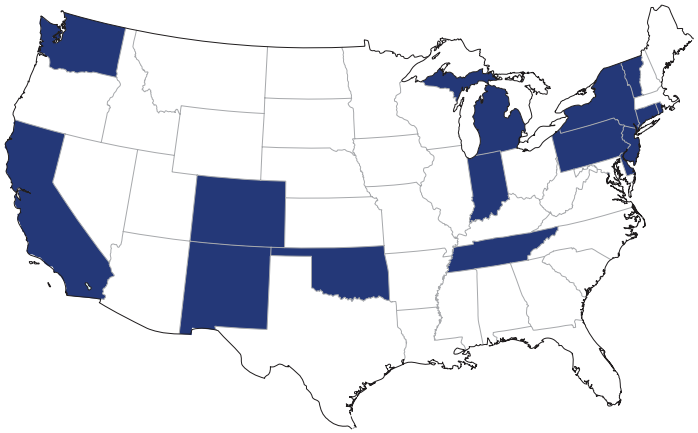
The main component of every student's education at a Big Picture school is Learning Through Internship/Interest. In this internship with an expert mentor, the student completes an authentic project that uses real-world problems and projects that allow students to explore and discuss these problems in ways that are relevant to them and that benefit the student and the mentor. These internships are the main path to deepening student learning and academic

Like DJ, all Big Picture Learning students are encouraged to follow their passion while simultaneously learning to excel academically.

DEEPER LEARNING IN ACTION

DJ's quandary was two-sided: he toyed with dropping out of school, yet he yearned to go to college. A classmate told him about the Metropolitan Regional Career and Technical Center, informally referred to as "the Met" and the first Big Picture Learning school, where "you can study what you want to study." DJ's first Met internship was creating street murals and doing silk screening. That's when he discovered his flair for business. He jumped into the Met's entrepreneurial program run by a local business person. DJ was tapped to be a CEO of a new product launch—Big Picture Soda. He drew up business plans, hired fellow students, and raised $10,000 in six months, landing Whole Foods and other stores to distribute the new drink. These tasks required DJ to be a creative problem solver, use communication skills to convince others to support the business and product, and collaborate with his employers and funders. The profits from the venture helped support a Dollars-for-Scholars scholarship project. The internship position helped DJ develop content knowledge in English, mathematics, and business, and he enrolled in Howard University where he successfully majored in business.

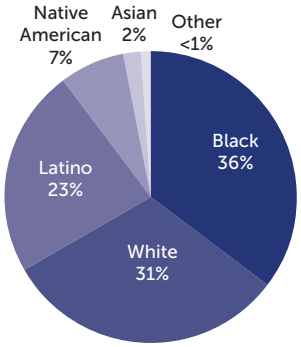
7,000 STUDENTS *in* 56 SCHOOLS *across* 15 STATES



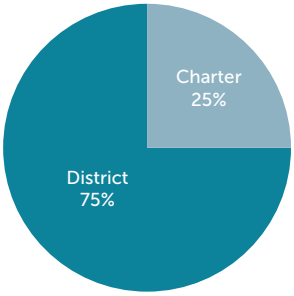
10% ELEMENTARY/ MIDDLE SCHOOLS

90% HIGH SCHOOLS

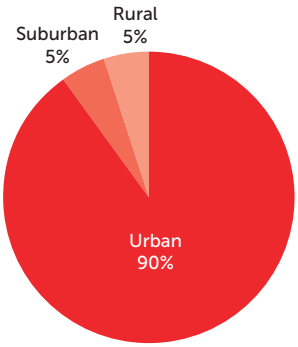
DEMOGRAPHICS:



GOVERNANCE:



LOCATION:



Additional demographics:

67% Free or reduced lunch

20% Special Education

Network operator type:
Partnership Support Organization and Professional Development Provider

Founded: 1996

Headquarters:
325 Public Street
Providence, RI 02905

Website: www.bigpicture.org

Phone: (401) 752-3442

Email: info@bigpicturelearning.org

Twitter: @bigpiclearning

Learn more about Big Picture Learning:

www.bigpicture.org/influence
www.bigpicture.org/innovation
www.bigpicture.org/schools

growth. At one school a student shared his passion for flying and described his internship working at a small airport, learning about all aspects of the aircraft industry. With the aid of his school advisors and workplace mentor, the mathematics and science he learned in the classroom were reinforced and integrated into his work with aircraft on a daily basis. This helped him see the relevance of academics in a career, strengthened his content knowledge, and helped him determine the next steps along his proposed career path.

AUTHENTIC ASSESSMENT

Authentic assessment measures students' ability to solve real-life problems. For example, while a traditional assessment for a chemistry class might consist only of multiple choice questions that require little more than memorization, an authentic assessment engages students in scientific inquiry and might ask test-takers to propose their solution to helping their community clean up a chemical spill in a local lake. Big Picture Learning uses authentic assessments that ask students to demonstrate meaningful application of essential knowledge and skills. Their assessment criteria is individualized and fit to each student based on the standards of the student's project (as gauged by the student's advisor with input from mentors, parents, and peers). Assessments include public exhibitions (one per quarter or trimester which tracks student growth, quality of work, and academic depth in the learning goals), weekly check-in meetings with advisors, yearly presentation portfolios, and transcripts (which translate the Big Picture Learning design so that colleges can understand the students' knowledge and skills). Students also reflect upon their learning by keeping journals.

COLLEGE PREPARATION AND SUPPORT

By developing challenging individual learning plans, organizing student visits to colleges, educating families about the college application and financial aid processes, and building relationships with local colleges, Big Picture Learning schools cultivate students' readiness for the challenges of post-high school study. Big Picture Learning school students are required to take college entrance exams and apply to at least one college or postsecondary school program. Many Big Picture Learning students take courses on college campuses as well.

RESULTS THAT SPEAK FOR THEMSELVES

Personalizing each student's learning experience, engaging in authentic assessments, and maintaining a focus on rigorous content results in impressive outcomes. Big Picture Learning reports higher passing rates at its schools than at other schools in the same district. Big Picture Learning also has a higher on-time graduation rate than other schools in same districts. For example the Met Sacramento High School, a Big Picture Learning school, has a rate of 89 percent versus 76 percent for the district overall and the Metropolitan Regional Career and Technical Centerin Providence, RI has a rate of 81 percent versus 65 percent in the city. A 2012 study of Big Picture Learning alumni conducted by MPR Associates, Inc., found that 74 percent of Big Picture Learning graduates enrolled in college within the first year after graduation, and on average the freshman-to-sophomore persistence rate was 87 percent.

ConnectEd
The California Center for College and Career

ConnectED/LINKED LEARNING

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

WHAT IS THE DEEPER LEARNING NETWORK?

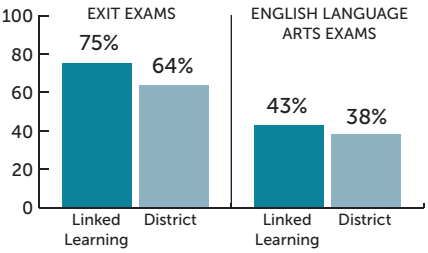
A national "Deeper Learning Network" of more than 500 schools is delivering deeper learning to students in forty-one states. Composed of ten school networks it collectively serves more than 227,000 students, most of whom are low-income minority students. Each school network has a unique approach, but all foster the deeper learning skills that prepare young people for economic and civic success.

THE NETWORK: Asia Society, Big Picture Learning, ConnectEd/Linked Learning, EdVisions Schools, Envision Education, Expeditionary Learning, High Tech High, Internationals Network for Public Schools, New Tech Network, and New Visions for Public Schools.

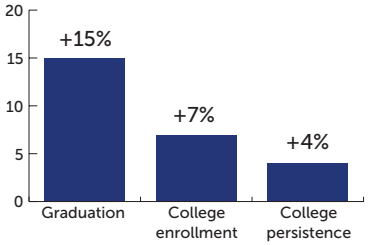
www.deeperlearning4all.org

Linked Learning is an approach that uses "pathways" to help students of all abilities connect learning to their interests and career goals. A pathway spans grades nine to twelve, connects high school and postsecondary institutions to ensure a smooth transition after graduation, and integrates rigorous academic instruction with demanding technical curriculum and field-based learning. Pathways are developed around industry sectors, such as business and finance, building and environmental design, biomedical and health sciences, or arts, media, and entertainment.

Linked Learning students outperform peers on exams

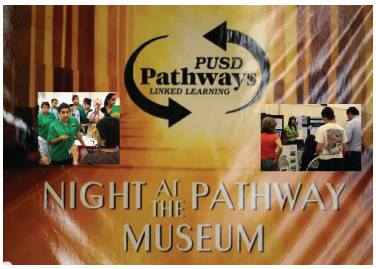


Linked Learning students are more likely to graduate and go to college



A STRUCTURED APPROACH THAT SUPPORTS STUDENTS AND TEACHERS

By integrating "rigor, relevance, and relationships" into the pathways, Linked Learning melds strong academics, technical education relevant to the student's chosen career path, and real-world experiences which allow students to develop relationships with teachers and community mentors focused on career goals. Most pathways limit the number of students to 250–500 so that teaching is individualized, and struggling students are identified and helped. Many pathways adopt a flexible schedule that allows more time for in-depth labs and Project-Based Learning, longer classes, extra tutoring for students that are behind, work-based learning experiences, and common preparation time for teams of teachers to develop integrated curricula and work with employers and students. Schools that use Linked Learning pathways train and motivate teachers and school leaders so they can develop partnerships with local industry and business to inform curriculum and support work-based learning. Linked Learning supports the development and operation of pathways at both the district and school levels, but it advocates for district-wide implementation as a way to change instruction and learning for all students.



Linked Learning students display their work for parents, peers, and the local community, including business leaders, encouraging a sense of community engagement and academic relevance to the real world.

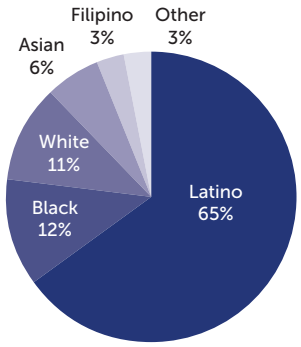
DEEPER LEARNING IN ACTION

Porterville (California) Unified School District hosted an exhibition of student work titled Night at the Pathway Museum, where students showcased their Project-Based Learning and described how they deepened their content knowledge over the term of the project. Projects included robotics design, healthy diet and nutrition, and the design of buildings. Working in teams, students from nine Porterville high schools chose unresolved issues in the community they wanted to address. Then, with data culled mostly from local libraries, they formed conclusions and made recommendations for how to resolve the problems. Students collaborated in presenting their findings to an audience of outside reviewers who evaluated the student presentations using criteria which ensured that the projects addressed learning outcomes set by teachers. Students had an opportunity to showcase their content knowledge in various disciplines (English, math, science, and technical fields), and they were asked to explain what they learned and how they applied their knowledge to their project. Students explained the critical-thinking and problem-solving skills used to develop their conclusions during their presentations. A by-product of the exhibition is that more employers want to partner with the high schools and support the Linked Learning approach.

ConnectED/LINKED LEARNING

50,000 STUDENTS *in* 173 PATHWAYS *across* 62 HIGH SCHOOLS*

DEMOGRAPHICS:



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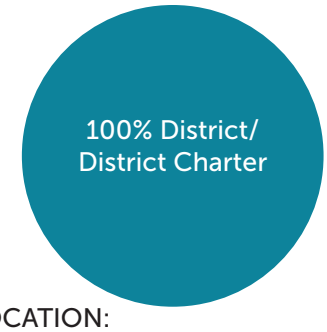


LOCATION:

Additional demographics:

70%	11%	25%
Free or reduced lunch	Special Education	English-language learners

Network operator type:
Professional Development and Technical Assistance Provider

Founded: 2006

Headquarters:
2150 Shattuck, Suite 1200
Berkeley, CA

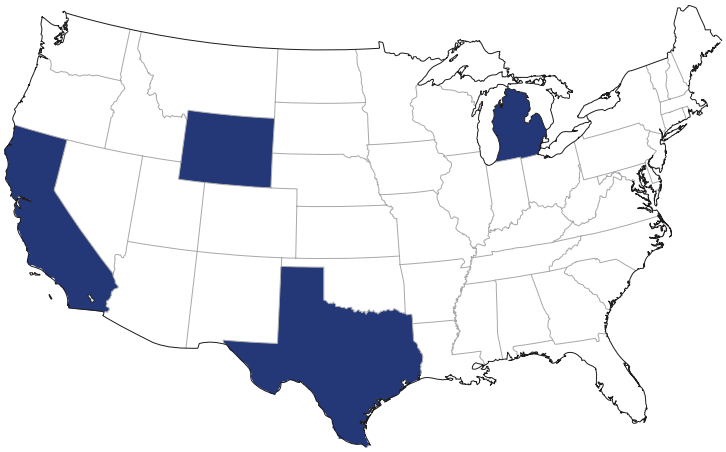
Website: www.ConnectEdCalifornia.org

Phone: (510) 849-4945

Email: info@ConnectEdCalifornia.org

Twitter: @ConnectEdOrg

Learn more about Linked Learning:
www.connectedcalifornia.org/linked_learning



CONNECTING ACADEMICS TO REAL-WORLD APPLICATIONS

The Linked Learning approach relies on teachers to connect theoretical knowledge and real-world applications in newly developed curricula. Teachers in Linked Learning pathways are given adequate time and support to plan and create standards-aligned, integrated, and multidisciplinary project-based instruction and assessments that help students make connections between book learning and real-life learning and to practice problem solving and critical thinking. For example, an engineering teacher who challenges students to design the shape and area for the most energy efficient blade for a wind turbine is reinforcing both the engineering and the geometry standards that students must master. Similarly, a geometry teacher who asks students to propose and defend their placement of blade angles for a wind turbine is helping students understand the geometry of angles and is making mathematics more relevant and understandable by using a real-world engineering context.

WORK-BASED EXPERIENCES

Linked Learning students have opportunities to connect what they learn in the classroom with work and careers. For example, a biology student enrolled in a health-care pathway might visit a local hospital or medical institute to learn about the science of stem cells or heart disease from scientists and doctors. Students experience the workplace in various ways, beginning in the early high school years with shadowing business partners to learn about their jobs and careers to engaging in real work with intensive internships in the upper grades. These work-based learning experiences allow students to build supportive relationships with adults and to develop problem-solving, communication, and collaboration skills, all necessary to succeed in the workplace and in college.

LINKED LEARNING IS WORKING

Schools that have adopted the Linked Learning approach have reported increased attendance rates, improved test scores, and decreased dropout rates than their non-pathway peers. Data collected by the Institute for Evidence-Based Change working directly with school districts shows that in two districts with four-year Linked Learning pathways, ninth grade pathway students fail fewer courses than their peers; 9 percent more Linked Learning students attend four-year postsecondary education institutions than their peers; tenth grade students enrolled in certified pathways are as much as 14 percent more likely than their peers to be on track to complete the California college entrance requirements; and according to data from the Stanford Research Institute, ninth and tenth grade Linked Learning students accumulate significantly more credits than their non-pathway peers.

* numbers reflect California only

EDVISIONS SCHOOLS

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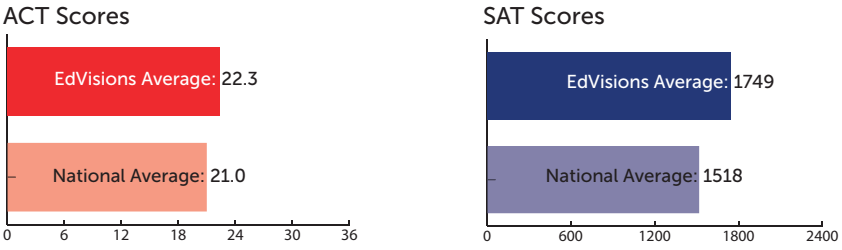
www.deeperlearning4all.org

EdVisions Schools, a network of forty small schools, promotes relevant and personalized learning environments that emphasize self-directed, Project-Based Learning to empower students, parents, and teachers. Working primarily with underserved students in both urban and rural areas, EdVisions credits its success to its focus on teacher-led schools, positive caring relationships, mentoring, and active student engagement in school decision making. Students are measured on rigorous academics as well as the deeper learning skills needed for postsecondary education, careers, and civic engagement.

EDVISIONS STUDENTS OUTPERFORM THEIR PEERS ON COLLEGE ENTRANCE EXAMS

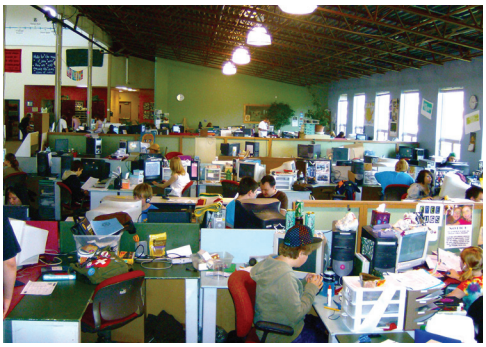


SMALL AND PERSONALIZED

The founders of EdVisions found that students often leave traditional schools due to impersonal curricula and time-driven instruction that pays little attention to relationships and relevant learning opportunities. Through small learning communities, every student at an EdVisions school is treated as an individual. Strategies to support students include the use of personalized learning plans that are designed by students, parents, and teachers; personalized workspaces that are equipped with technology that tracks student progress against their learning plans; full-time student advisors; and a curriculum that emphasizes student projects and presentations. To foster a culture of student ownership, students manage the library, music class, school congress, and multiple student clubs, giving them additional authentic opportunities to develop communication, collaboration, and critical-thinking and problem-solving skills. EdVisions also focuses on students' non-academic needs, which helps students think about their own learning by measuring their ability to set reasonable goals, make plans to meet those goals, and persist to achieve those goals.

SELF-DIRECTED, PROJECT-BASED LEARNING

A core component of the EdVisions approach is the use of self-directed, Project-Based Learning opportunities in which students explore real-world problems and challenges, allowing them to obtain a deeper knowledge of a subject. A central goal of these individual or group projects is to build student mastery through rigorous interdisciplinary content that is relevant to



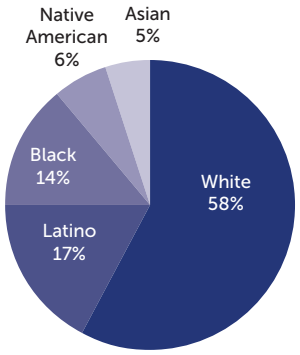
EdVisions students' learning environments are personalized to give them the tools they need to work on self-directed projects.

DEEPER LEARNING IN ACTION

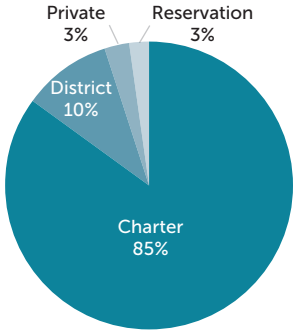
Brooke, an EdVisions student, undertook a project on factory farming and slaughterhouses after she began questioning whether vegetarianism was a legitimate way to stay healthy. She investigated the presence of antibiotics and hormones in meat products, the history of husbandry and slaughtering techniques, and laws governing the U.S. meat industry compared to other countries. She produced a research paper and a visual presentation and exhibit, using samples of vegetable sources of protein, examples of chemicals used in raising meat, and photos of slaughterhouse practices. Her project met standards in biology, environmental science, history, and civics, and gave her a chance to develop her critical-thinking, problem-solving, and communication skills.

8,740 STUDENTS *in* 41 SCHOOLS *across* 11 STATES

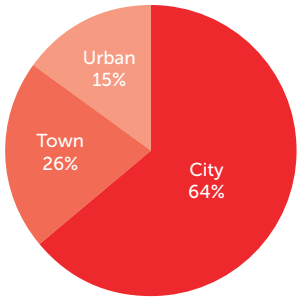
DEMOGRAPHICS:



GOVERNANCE:



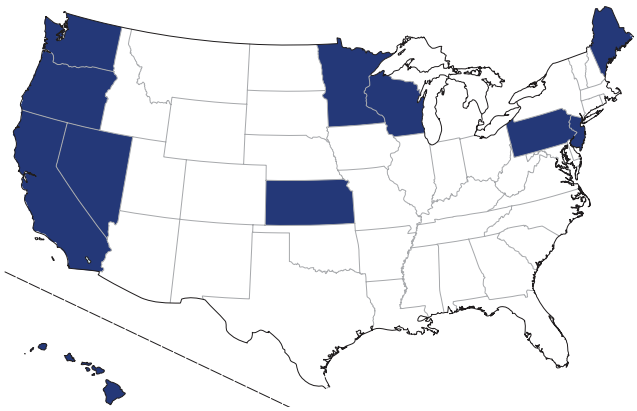
LOCATION:



Additional demographics:

44% Free or reduced lunch

26% Special Education



3% ARE ELEMENTARY SCHOOLS

97% ARE HIGH SCHOOLS

the students' lives. One student who was interested in music learned physics through an exploration of sound. Another built on her interest in gardening through a study of the genetics of heirloom tomatoes. Teacher advisors guide students as they develop their individual or group projects. Academic learning standards are embedded into each of these projects and used to demonstrate high levels of understanding. Students demonstrate their learning through online portfolios or publicly through presentations to their peers, parents, and the community.

AUTHENTIC ASSESSMENT

Authentic assessment measures students' ability to solve real-life problems. For example, while a traditional assessment for a chemistry class might consist only of multiple choice questions that require little more than memorization, an authentic assessment engages students in scientific inquiry and might ask test-takers to propose their solution to helping their community clean up a chemical spill in a local lake. EdVisions students are held to high standards in their project-based learning, not only by their teachers and advisors, but by parents and content specialists outside of the classroom as well. Teachers help guide students' work and ensure that they are meeting content standards and preparing for graduation. Students first develop a project proposal, which is vetted and edited with parents and multiple advisors and content area teachers. Upon approval, a contract is signed to set expectations. Advisors then pay close attention to the student's progress throughout a project, using the contract, content standards, and rubrics as a guide. An advisor might help a student incorporate the algebra skills needed to pass a standardized test into an upcoming project. Or the advisor might emphasize critical thinking or collaboration skills in which a student needs practice and help the student create a plan to meet those goals. Teachers believe in the philosophy that "a student's best work looks different for every kid," and they demonstrate that belief through multiple forms of authentic assessment.

TEACHER OWNERSHIP AND DEMOCRATIC GOVERNANCE

EdVisions embraces the principle of teacher ownership of every aspect of the learning environment. They engage "teachers as owners" of a democratic learning community by granting teachers control over numerous core aspects of school management, such as budgeting and staffing choices. Teachers are evaluated by peers, students, and parents. New staff are incorporated within the school culture and offered continuous improvement support by a teacher-led coaching and mentoring plan. This approach is grounded in the belief that in order to successfully engage students and promote deeper learning, the school must espouse a culture of strong leadership and ownership at all levels.

GETTING RESULTS

EdVisions reports that students in their schools earn higher scores on the SAT, that approximately 80 percent of their students graduate, and 82 percent of students have gone to a two- or four-year college. In their flagship school, 69 percent of students have graduated from postsecondary institutions, while 22 percent are still enrolled, for a total of 91 percent. Additionally, EdVisions students consistently outperform their peers at similar schools on growth in their social and emotional skills.

Network operator type:
Professional Development Provider

Founded: 1992 (EdVisions Cooperative)
2000 (EdVisions Schools)

Headquarters:
501 Main Street
P.O. Box 601
Henderson, MN 56044

Website: www.edvisionsschools.org

Phone: (507) 248-3738

Email: info@edvisionsschools.org

Twitter: @edvisions

See how EdVisions Schools are different:
www.youtube.com/edvisionsschools

ENVISION EDUCATION

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

WHAT IS THE DEEPER LEARNING NETWORK?

A national "Deeper Learning Network" of more than 500 schools is delivering deeper learning to students in forty-one states. Composed of ten school networks it collectively serves more than 227,000 students, most of whom are low-income minority students. Each school network has a unique approach, but all foster the deeper learning skills that prepare young people for economic and civic success.

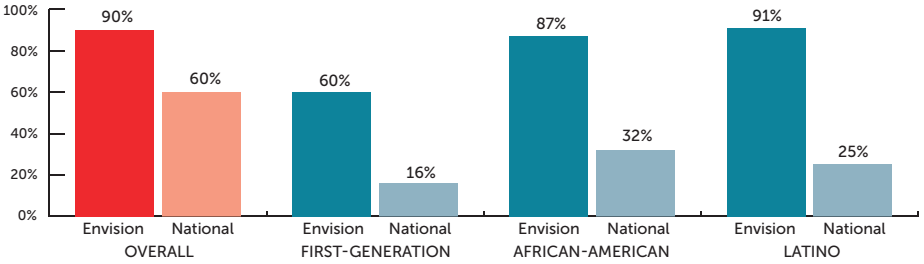
THE NETWORK: Asia Society, Big Picture Learning, ConnectEd/Linked Learning, EdVisions Schools, Envision Education, Expeditionary Learning, High Tech High, Internationals Network for Public Schools, New Tech Network, and New Visions for Public Schools.

www.deeperlearning4all.org

Envision Education's curriculum and model utilize a "Know, Do, Reflect" approach to ensure that students excel at the deeper learning skills of thinking critically, collaborating productively, and communicating clearly. At Envision's three small, urban public schools in the San Francisco Bay Area, students learn not only to master academic content (to "know"), but also how to apply that knowledge to real-world situations (to "do"). Throughout the process of acquiring knowledge, they discuss and analyze how they are learning (to "reflect").

ENVISION GRADUATES ARE COLLEGE-BOUND

Envision students—especially African Americans, Latinos, and those who represent the first in their family to pursue higher education—enroll in college at higher rates than their non-Envision peers.



DRIVING SUCCESS THROUGH RIGOROUS STUDENT ASSESSMENT

As part of the "Know, Do, Reflect" approach to learning, Envision Education schools use multiple assessments that emphasize students' deep understanding of academic topics. Students assemble a portfolio of their best work, which they must "defend," dissertation-style, in front of an audience of educators, peers, and community members. As students prepare their portfolios and receive feedback from teachers, they hone not only their critical thinking skills, but also their communication skills, as they describe their learning across grades and classes. Students present a defense of their work at the end of the tenth grade, where they provide examples of what they have studied and explain their learning step by step. Students continue to make presentations of their work throughout their school career, which allows them to develop their communication skills and apply their knowledge. Seniors must pass the "college success portfolio" defense, which is required for graduation from an Envision school. One student reflected that in the tenth grade it was difficult to present, as she had to keep revising and improving

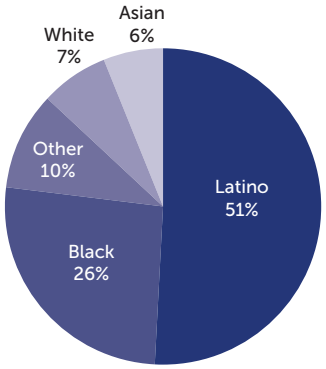
Sha'nice Patterson credits her success to her teachers and mentors at City Arts and Tech, an Envision school in San Francisco, California.

DEEPER LEARNING IN ACTION

When Sha'nice started at City Arts & Technology High School (CAT) in San Francisco, her mother had just died at age forty-two. She was estranged from her father, and she was being raised by her eighty-year-old grandmother. CAT Principal Karen Bioski recalls the arrival of an "angry, frustrated girl." Four years later, Sha'nice was a student transformed. She had received acceptances from three four-year universities and was awaiting word from several more. What caused the transformation? Sha'nice said the teachers at CAT offered engaging projects that interested her, provided opportunities to be responsible for her own learning, encouraged her to take on new challenges, and helped her learn from her mistakes. Through presentations of her work she got to "show what I know," honing her critical-thinking and communication skills. Her junior year internship at the San Francisco city attorney's office—the first time the office employed a high school intern—developed her problem-solving skills and instilled the desire to work harder to get to college.

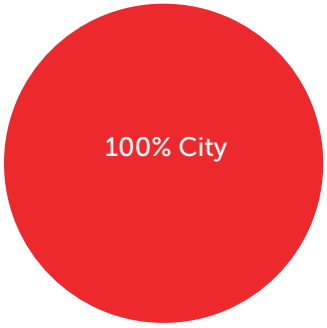
1,300 STUDENTS *in* 3 SCHOOLS *in the* SAN FRANCISCO BAY AREA

DEMOGRAPHICS:



GOVERNANCE:

LOCATION:



Additional demographics:

69%	11%	11%
Free or reduced lunch	Special Education	English-language learners

Network operator type:
Charter Management Organization

Founded: 2002

Headquarters:
11 Myrtle Street, Suite 203
Oakland, CA 94607

Website: www.envisionschools.org

Phone: (510) 451-2415 x153

Email: info@envisionschools.org; sally@envisionlearning.org

Twitter: @envisionschools

Learn more about Envision's students:
http://www.envisionschools.org/student-work-testimonials/

3
HIGH SCHOOLS

her presentation; by the twelfth grade, she and other students were able to present confidently and comfortably and had mastered the content knowledge. She was able to accomplish this because she had many opportunities to present, learn from the experience, apply those lessons to the next opportunity, and to constantly refine each presentation.

DEVELOPING REAL-WORLD PROJECTS

Envision teachers embed rigorous academic content in projects that speak to students' life experiences and that have relevance and application in the larger world and in their communities. This instructional approach is called Project-Based Learning. These learning experiences are augmented by community-based projects and internships at partner organizations and businesses. During part of their eleventh grade year, all Envision students work at an internship site, such as the Oakland Zoo, St. Luke's Hospital, Youth Radio, or California Academy of Sciences, where they work side by side with employer mentors who help them solve real-world problems and apply their knowledge.

PROMOTING PROFESSIONAL DEVELOPMENT

Envision schools invests heavily in teacher professional growth, including new teacher training in August, three hours of weekly on-site professional development time, and ten days of professional development over the summer and during the school year. Envision teachers work and learn collaboratively, sharing their projects and tools, trading ideas and successes, and learning best practices from each other–within and between Envision Schools and, through Envision Learning Partners, between schools and systems across the country.

COLLEGE PREPARATION AND SUCCESS FOR EACH STUDENT

Hand in hand with this academic preparation, teachers help students develop the skills, attitudes, and expectations that support college success. They do this by emphasizing lifelong learning, cultivating persistence and confidence, and helping students navigate the college admissions process. Envision students also visit college campuses and receive critical tutoring to prepare for the SAT. This intentional focus on college preparation and the strong academic foundation students receive at Envision Schools has led to positive outcomes. According to data collected by Envision, fully 100 percent of Envision students meet all the requirements for admission to California's public university system, and more than 90 percent of graduates go on to attend either a two- or four-year college, compared to 40 percent of all California high school graduates. Additionally, 87 percent of African American students and 91 percent of Hispanic students at Envision Schools go to college, compared to the national averages for those groups of 32 percent and 25 percent respectively.

EXPEDITIONARY LEARNING

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

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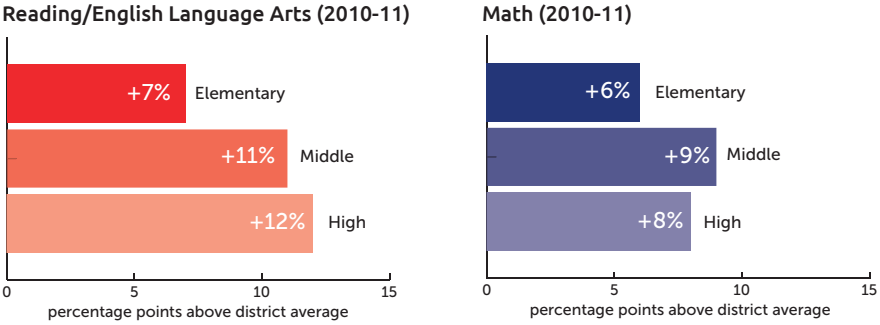
THE NETWORK: Asia Society, Big Picture Learning, ConnectEd/Linked Learning, EdVisions Schools, Envision Education, Expeditionary Learning, High Tech High, Internationals Network for Public Schools, New Tech Network, and New Visions for Public Schools.

www.deeperlearning4all.org

Expeditionary Learning is a network of schools in which students learn by doing. Students at these schools learn math, science, history, English language arts, and many other subjects through projects, or "expeditions", that connect them to their communities and teach them the value of service. Students also learn how to think critically, solve problems, and collaborate—the kind of deeper learning skills that will help them to succeed in college, the workforce, and society.

EXPEDITIONARY LEARNING SCHOOLS SIGNIFICANTLY OUTPERFORM DISTRICT AVERAGES



LEARNING BY DOING

Real-world experience through service is what sets Expeditionary Learning apart. In contrast to traditional instruction, students learn by designing their own projects, going on extended expeditions outside the classroom to work in their communities for weeks at a time—covering topics as diverse as ecology, zoning issues, and voting rights.

Students work alone and in groups, conducting original research, analyzing data, and presenting their findings to their teachers and their fellow students. The work goes in stages, as students solicit feedback from their peers and instructors, making revisions along the way. Each step in the process reinforces a culture of continuous improvement and refinement. Among the most popular events of the school year are exhibition nights, in which students display their work to fellow students, educators, parents, and the community.

Crystal Manrique and Luis Barbosa, students at Springfield Renaissance, collect data for their environmental science project.

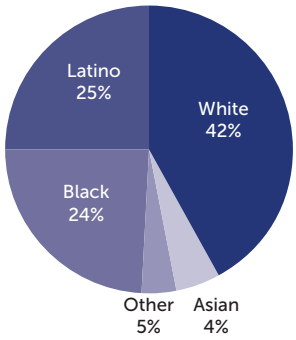
DEEPER LEARNING IN ACTION

Students at The Springfield Renaissance School in Springfield, MA are learning about environmental science and saving their school district money. In 2010, Joseph Forest, a city facilities engineer, worked with a tenth grade environmental science class on a project to figure out how to save energy. The students collected data and developed recommendations for conservation in the city's school buildings, and presented their findings to city officials. Springfield Mayor Domenic Sarno not only commended students on their effort, but backed their ideas with a $156,000 investment based on their proposal, known as "Greenprint." Within two years the city recouped all of its investment and has engaged the students in future projects, dedicating another $250,000 towards that work.

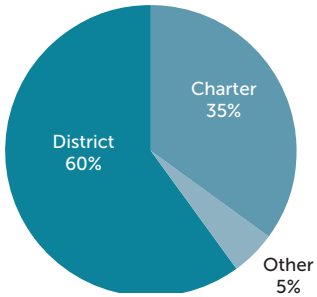
EXPEDITIONARY LEARNING

46,000+ STUDENTS *in* 158 SCHOOLS *across* 29 STATES

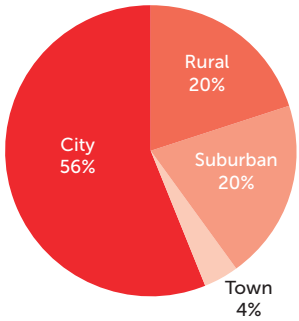
DEMOGRAPHICS:



GOVERNANCE:

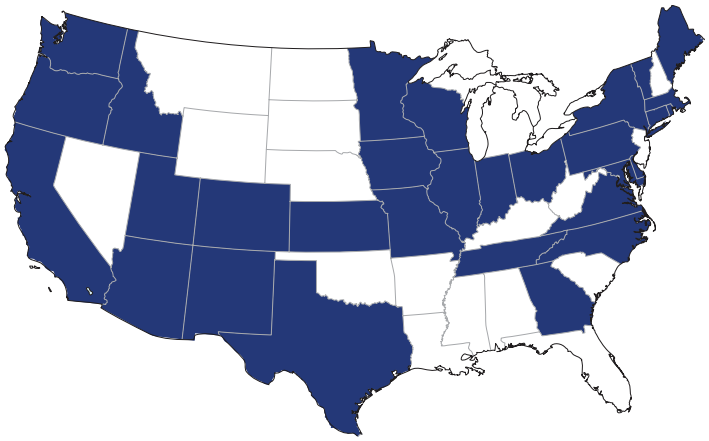


LOCATION:



Additional demographics:

55%	13%	11%
Free or reduced lunch	Special Education	English-language learners



68 ELEMENTARY SCHOOLS

60 MIDDLE SCHOOLS

30 HIGH SCHOOLS

DIVERSE STUDENTS WHO CONSISTENTLY OUTPERFORM THEIR PEERS

Expeditionary Learning encompasses a diverse community of students and educators in schools across the country. Their 46,000 students come from diverse socioeconomic and ethnic backgrounds, and over half of their students are minorities. According to a 2013 study by Mathematica, students in Expeditionary Learning schools consistently outperform their peers on standardized tests. This includes substantially higher scores for both black and Latino students. Expeditionary Learning students have a consistently higher college acceptance rate than similar students from other schools.

TEACHERS WHO RECEIVE ONGOING TRAINING AND DEVELOPMENT

Expeditionary Learning schools pay particular attention to their teachers. Teachers and school leaders work together to improve curriculum design, instruction, school culture, leadership, and assessment. Faculty members take part in coaching sessions, demonstration lessons, classroom observations, and the EL Commons, an online forum where educators can share information and learn from their peers. Each year over 800 educators come together for master classes, discussion groups, and regional meetings. In addition to rigorous assessment and a focus on making sure that teachers use data to inform their teaching, there is plenty of room for creativity and judgment. Teachers have the flexibility to adjust instruction to meet their students' needs while measuring progress.

And "learning by doing" isn't reserved only for students; by accompanying their students on expeditions, teachers understand the importance of going beyond the classroom.

A RIGOROUS NETWORK

It isn't easy to become an Expeditionary Learning school. Each prospective school must undergo a rigorous assessment before it can join the network. Expeditionary Learning collects a variety of data about the school and gauges the district's support for comprehensive change. It looks for thoughtful and influential leadership within the school and examines the faculty's willingness to embrace a new model.

LINKED TO THE COMMON CORE

To fully implement the Common Core Standards decision-makers must demand high-quality, aligned curricula to deliver both the academic content and skills of deeper learning. New York selected Expeditionary Learning to create the statewide English Language Arts and Literacy curriculum for grades 3-8. These materials will be reviewed to demonstrate their quality and alignment to the Common Core. Finally, they'll be openly available for other states to adopt and to help ensure that all students are prepared for college, work, and life.

Network operator type:
Professional Development Provider

Founded: 1987

Headquarters:
National Office
247 West 35th Street, 8th Floor
New York, New York 10001

Website: www.elschools.org

Phone: (212) 239-4455 (National office)

Email: info@elschools.org

Twitter: @ExpedLearning

See additional examples of student work:
www.elschools.org/student-work &
www.elschools.org/evidence

HIGH TECH HIGH

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

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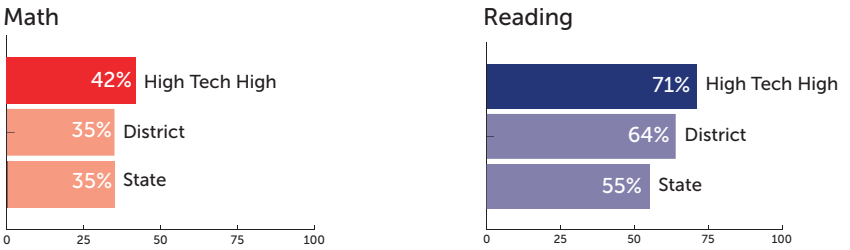
www.deeperlearning4all.org

High Tech High is a network of eleven schools in San Diego County, California, spanning grades K-12 that prepares students for college and careers by providing a personalized, hands-on approach to learning, strong connections between students and adults, and a common intellectual mission, with strong teacher leadership. High Tech High is authorized by California to fully credential its own teachers and also opened a graduate school of education in 2007 that offers master's degree programs for experienced educators.

HIGH TECH HIGH STUDENTS SCORE BETTER ON BOTH MATH AND READING TESTS

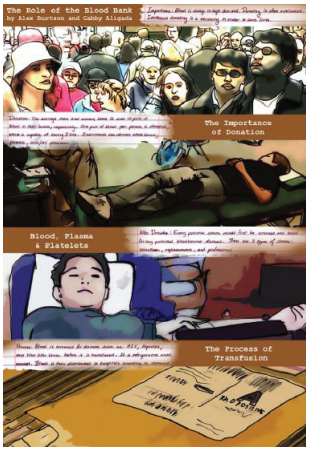


COMMON INTELLECTUAL MISSION

High Tech High schools are diverse and integrated. Students are enrolled by a ZIP code-based lottery, and there is no tracking of students by perceived academic ability. All students pursue a rigorous curriculum that provides the foundation for entry into the University of California system and employment. Schools articulate common expectations for learning that value deeper learning competencies, the integration of hands and minds, and the merging of academic disciplines. Performance-based assessments are used to gather evidence of the scope of a student's knowledge on a subject, rather than simply testing the accuracy of their responses on a selection of questions. Students develop projects, solve problems, present findings to community panels, and complete an academic internship, a substantial senior project, and a personal digital portfolio. Teachers employ a variety of approaches to accommodate diverse learners and recognize the value of having students from different backgrounds working in collaboration.

A TRANSPARENT LEARNING ENVIRONMENT

Walk into any High Tech High school, and you are immediately struck by the open learning environment marked by high-quality student work on display everywhere—in galleries, outdoor learning spaces, and specialty laboratories. The caliber of work is consistently high, and students are proud to showcase their learning, which is the product of hours of toil, revision, and working through challenges collaboratively



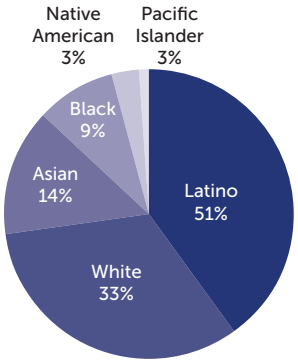
DEEPER LEARNING IN ACTION

High Tech High seniors collaborated with the San Diego Blood Bank, along with an art teacher and a biology/multimedia teacher on the Blood Bank Project. Students were divided into pairs to research blood-related topics that incorporated various disciplines, such as biology, health, media, and history. Topics focused on leukemia, sickle cell anemia, the AIDS epidemic, the use of blood in film, and the role of blood in religion. Once the research and findings were complete, students created a painting of their theme on a large piece of custom-cut wood. An opening housed a laptop displaying an audio-visual presentation they had designed to teach the community about their topic. The final product highlighted students' research about the importance of blood to our health, blood diseases, and the symbolism and use of blood in art and religion. Students collaborated in conducting their research and used critical thinking to analyze how blood is viewed by the entertainment industry and by religions. Students demonstrated their communication and presentation skills as they shared their findings with a broader audience. Students' final projects were exhibited at the JETT Art Gallery in San Diego, next to the Blood Bank to promote blood donations.

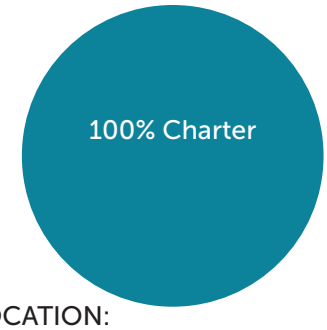
HIGH TECH HIGH

4,700 STUDENTS *in* 11 SCHOOLS *in* SAN DIEGO COUNTY

DEMOGRAPHICS:



GOVERNANCE:



LOCATION:

Additional demographics:

40%	12%	7%
Free or reduced lunch	Special Education	English-language learners

2 ELEMENTARY SCHOOLS

4 MIDDLE SCHOOLS

5 HIGH SCHOOLS

and openly. Students often take risks as they try new approaches. Reflection is a standard part of their practice, which helps students develop resiliency and persistence and helps them learn how to learn. Students are encouraged to explore and investigate and use their mistakes as learning opportunities. After one student mistook an alternator for a motor and plugged the alternator into the wall, causing power to go out in his classroom, he reflected on how much he learned about electricity from his error.

ADULT WORLD CONNECTION

High Tech High students connect their studies to the world beyond school through field studies, community service, internships, and consultation with outside experts. Using their good communication skills, students routinely create and present work for audiences of employers and community leaders and exhibit their work in professional venues. All high school students complete internships with employers or in a community service setting, where they develop projects that contribute to the workplace or help solve a problem. One student's project analyzed bacteria levels at popular beaches which required sophisticated measurement of the water and interviews with doctors and other health experts. The student determined the safety of the water and the illnesses that could be caused by the different types of bacteria and presented the material to peers, teachers, and local experts, making use of critical-thinking and problem-solving skills.

TEACHER AS DESIGNER

High Tech High teachers are program and curriculum designers. They work in interdisciplinary teams to design the courses they teach and participate in critical decisions regarding curriculum, assessment, professional development, hiring, and other significant areas of the school. The school schedule supports team teaching, and teachers have ample planning time to devise integrated projects, common rubrics for assessment, and common rituals by which all students demonstrate their learning and progress toward graduation. High Tech High has a deep commitment to professional development and teacher preparation and offers certification to teachers that teach at High Tech High or an affiliated school. The High Tech High Graduate School of Education offers master's degrees in teacher leadership and school leadership which are open to experienced teachers and educators.

RIGOROUS LEARNING, OUTSTANDING RESULTS

Students at High Tech High are exposed to a rigorous curriculum that meets admission requirements to the University of California, and they demonstrate their learning through performance assessments and portfolios, as well as standardized assessments. The High Tech High Network reports that for U.S. schools, 98 percent of graduates go to college, a strong rate given that 35 percent of High Tech High graduates are first-generation college students. Thirty percent of students go into the STEM (Science, Technology, Engineering, and Math) fields (the national average is 17 percent), and 75 percent of graduates enroll in four-year institutions.

Network operator type:
Charter Management Organization

Founded: 2000

Headquarters:
2861 Womble Rd.
San Diego, CA 92106

Website: www.hightechhigh.org

Phone: (619) 243-5000

Email: bdaley@hightechhigh.org

Twitter: @hightechhigh

Learn more about High Tech High:
http://videos.hightechhigh.org/

INTERNATIONALS NETWORK FOR PUBLIC SCHOOLS

INTERNATIONALS NETWORK FOR PUBLIC SCHOOLS

WHY DEEPER LEARNING?

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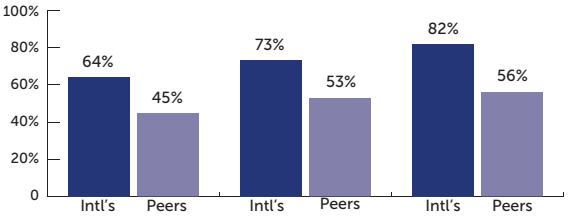
www.deeperlearning4all.org

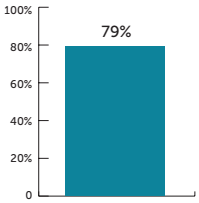
Since 2004, Internationals Network for Public Schools has supported a network of schools that provide quality education for immigrant youth who have arrived in the United States with limited English language skills, varying degrees of schooling, and different literacy levels in their native language. The schools focus on developing language skills and preparing students with the knowledge and skills they will need for college. Internationals Schools are close-knit, nurturing communities that support students who may feel displaced as newcomers to the United States and students accustomed to the U.S. but who are still not proficient in English.

INTERNATIONALS STUDENTS GRADUATE AT HIGH RATES

2-, 4-, & 6-year Graduation rates



College acceptance



LANGUAGE AND CONTENT INTEGRATION

In Internationals Schools, every teacher teaches content and language. Teachers know that strong language skills develop most effectively in context and emerge most naturally in a purposeful, language-rich, interdisciplinary, and experiential program. Teachers are constantly seeking language learning opportunities regardless of the content area and incorporate the home language skills of students to foster learning of English and other content. A biology class, for example, also offers an opportunity to understand the language features embedded in content vocabulary.

EXPERIENTIAL LEARNING

Internationals Schools believes that learning outside the classroom is essential to providing the real-world experiences necessary to learn English and become prepared for life after high school. An internship program is a key element for students to explore career interests while applying and extending their skills in meaningful settings. Students participate in activities such as community service, research projects about community issues, field trips to local museums, and lab experiences. Authentic assessments that ask students to perform real-world tasks that demonstrate meaningful

Internationals students draw upon their diverse backgrounds and interests to develop a course of study that keeps them engaged and succeeding academically.

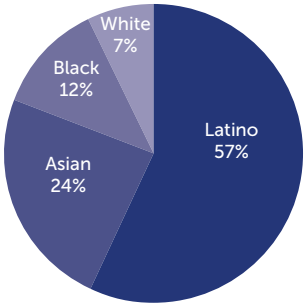
DEEPER LEARNING IN ACTION

Ygnacio, a native of the Dominican Republic, moved to New York City with his family as a teen with little formal education. The transition was difficult, but Ygnacio was fortunate to enroll at the International High School at LaGuardia Community College, which provided him with the tools he needed to overcome his dyslexia and make up for missed time in school. At one point, overwhelmed by the educational challenge he faced, Ygnacio considered dropping out. However, his peers, teachers, and other support staff pushed him to focus on his interests in community organizing. He was able to take an internship at a community-based organization advocating for educational equity, allowing him to develop valuable problem-solving and communication skills as he worked alongside community partners to support the organization's strategic goals. He also incorporated what he learned into individual and group class projects and steadily developed his academic skills. The collaborative environment and work with other students of different ability levels helped him learn and provided an additional support structure. As he gained a better sense of his interests and became confident in his abilities, his English skills and overall grades improved until he was able to graduate. He is the first member of his family to graduate from college.

INTERNATIONALS NETWORK FOR PUBLIC SCHOOLS

5,500+ STUDENTS *in* 17 HIGH SCHOOLS *across* 3 STATES *and* THE DISTRICT OF COLUMBIA

DEMOGRAPHICS:



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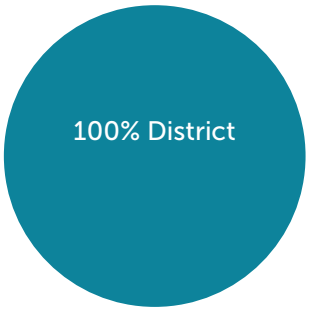

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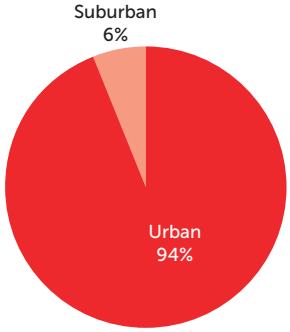


Additional demographics:

90% Free or reduced lunch

100% English-language learners

Network operator type:
School Development and Support; Professional Development and Technical Assistance Provider

Founded: 2004

Headquarters:
50 Broadway, Suite 2200
New York City, NY 10004

Website: www.internationalsnps.org

Phone: (212) 868-5180

Email: info@internationalsnps.org

Twitter: @Internationals9; @ClaireSylvan

Learn more about Internationals Network for Public Schools:
www.internationalsnps.org/results

application of essential knowledge and skills, such as portfolios, are used to monitor progress on academic and other deeper learning skills, such as problem solving and communication.

HETEROGENEITY AND COLLABORATION

Students are organized into diverse groups, each with a mix of English proficiency, academic backgrounds, native language, and literacy levels. These student groups foster a sense of community and allow students to teach and learn from one another. Through this collaborative approach, students are encouraged to take ownership of their learning and understand content on a deeper level, learning communication, collaboration, and critical thinking skills in the process. Additional supports such as guidance counselors, social workers, structured peer support, homework help, and writing centers are also provided.

ONE LEARNING MODEL FOR ALL

International Schools believes strongly that all members of the community learn best by engaging in authentic, rigorous, relevant, and collaborative projects that incorporate the voices of all members and use real-world problems to explore in meaningful ways. Not only students, but faculty and principals, work in heterogeneous groups on collaborative projects.

A NETWORK OF SUPPORT

The first Internationals School began in 1985 as a partnership between the New York City Department of Education and the City University of New York. Over the next sixteen years, three additional schools were opened in New York City, and in 2004, the Internationals Network for Public Schools was formalized to create new schools and support existing schools and districts. At present, the network supports 18 high schools in New York, Virginia, and California.

GETTING RESULTS

Internationals Schools continue to outperform schools that are serving similar challenging populations. According to the Network, in 2011, 64 percent of Internationals students graduated from high school in four years, 73 percent in five years, and 82 percent students graduated in six years, outperforming the English language learner graduation rate for New York City public schools. Students are not only graduating; 79 percent of graduates were accepted into college. According to New York City's published progress reports, three of the top twenty schools in New York City were Internationals High Schools, including Brooklyn International High School, which was ranked the city's top performing public school in 2008–2009 and is currently in the top three percent of high schools in the city.

New Tech Network

DEEPER LEARNING NETWORK SPOTLIGHT

NEW TECH NETWORK

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

WHAT IS THE DEEPER LEARNING NETWORK?

A national "Deeper Learning Network" of more than 500 schools is delivering deeper learning to students in forty-one states. Composed of ten school networks it collectively serves more than 227,000 students, most of whom are low-income minority students. Each school network has a unique approach, but all foster the deeper learning skills that prepare young people for economic and civic success.

THE NETWORK: Asia Society, Big Picture Learning, ConnectEd/Linked Learning, EdVisions Schools, Envision Education, Expeditionary Learning, High Tech High, Internationals Network for Public Schools, New Tech Network, and New Visions for Public Schools.

www.deeperlearning4all.org

New Tech Network is a nonprofit school development organization dedicated to ensuring that all students develop the skills and acquire the knowledge necessary to thrive in post-secondary education, careers, and civic life. Working with districts to build and sustain innovative K-12 public schools, New Tech Network creates a rigorous and engaging school experience that features the intensive use of Project-Based Learning and technology and establishes a positive and engaging school culture. In the seventeen years since its founding, the Network has grown to 133 K-12 schools in twenty-three states and Australia.

NEW TECH NETWORK STUDENTS EXCEL AT HIGHER-ORDER THINKING

68%
of New Tech Network seniors outperform college freshman with similar backgrounds and abilities

New Tech Network students grow by
77%
more than their non-Network peers using the College and Work Readiness Assessment

PROJECT-BASED LEARNING

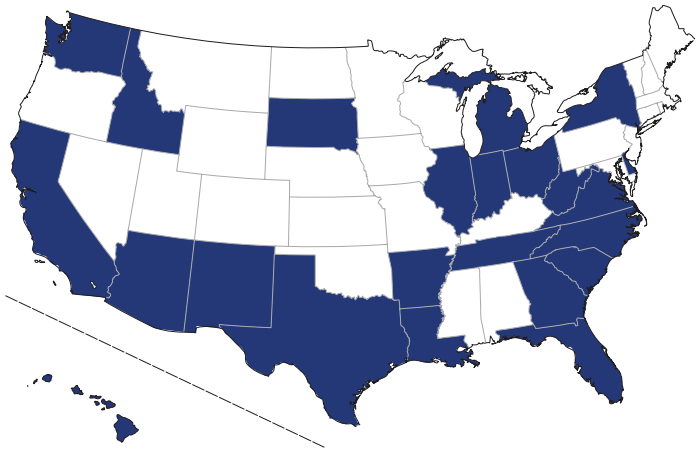
Project-Based Learning is at the heart of New Tech Network's instructional approach. Project-Based Learning is contextual, creative, and shared. Students collaborate on projects that are based on rigorous academic content and require critical thinking, communication, and collaboration to complete. Through extensive professional development and on-site as well as virtual coaching from New Tech Network, teachers learn how to become facilitators of rich, relevant learning. Students work together on projects, ranging in length from two to eight weeks, with teachers serving as coaches, not lecturers. For example, students in a class on environmental analysis at one New Tech school were assigned a project to design and build a solar oven to be used in developing countries. The groups of students used mathematics to calculate the dimensions of the ovens and chemistry and physics to determine the best conductors of heat. During New Tech Network projects, students often engage with experts in the field: business owners, professionals, or college professors who provide advice and feedback on the problem. Students present their completed designs for review by teachers and advisors. Project-Based Learning gives students the opportunity to not only master academic content, but successfully

New Tech Network students work together to develop party platforms and develop campaign materials as part of #myparty12, a project to engage students in the presidential election.

DEEPER LEARNING IN ACTION

Over several weeks in the fall of 2012, fifteen New Tech Network schools from around the country participated in #myparty12, a national, online project designed to engage students in the 2012 presidential election and help them learn about politics and the role of the media in an election. Participating students were a good representation of the national electorate and came from rural, suburban and urban schools, various ethnic and economic backgrounds, and all aspects of the political spectrum. Students were challenged to develop their own political parties and establish a set of common beliefs, which required collaboration and critical thinking. They developed party platforms, determined ways to affect public policy, and created short campaign videos that detailed their party platforms, which drew upon writing and presentation skills. More than 7,500 New Tech Network students and teachers then voted to select five finalists, who participated in a network-wide virtual debate held on YouTube using Google Hangout, moderated by a veteran public affairs consultant. The project encouraged students to experience what active, engaged citizenship feels like and gave them opportunities to use technology in creative ways to communicate their views and discuss issues with others.

35,000+ STUDENTS *in* 133 SCHOOLS *across* 23 STATES



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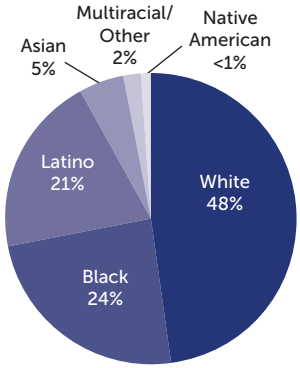
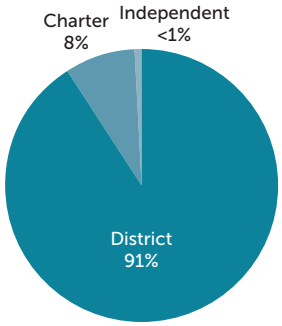


GOVERNANCE:



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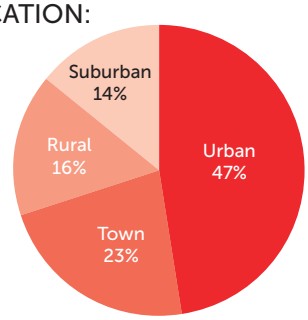


Additional demographics:

47%	9%	5%
Free or reduced lunch	Special Education	English-language learners

Network operator type:
Partnership Support Organization and Professional Development Provider

Founded: 1996

Headquarters:
1250 Main Street, Suite 100
Napa, California 94559

Website: www.newtechnetwork.org

Phone: (707) 253-6993

Email: inquiry@newtechnetwork.org

Twitter: @newtechnetwork

Learn more about New Tech Network:
http://www.newtechnetwork.org/about/our-results

apply content in solving a real-world challenge.

PERVASIVE USE OF TECHNOLOGY TO SUPPORT TEACHING AND LEARNING

The pervasive use of technology supports New Tech Network's innovative approach to instruction, culture, and anytime learning. New Tech schools embrace one-to-one computing and access to the Internet anywhere on campus and outside school hours for students using devices such as laptops, iPads, or smart phones. All schools use Echo, New Tech Network's Web-based learning management system that facilitates Project-Based Learning and provides resources for teachers. Teachers can use Echo to track student progress and grades and also to share curricular materials with other teachers across the network. With access to Echo, the Internet, and the latest in collaborative learning technology, every New Tech Network student becomes a self-directed learner who no longer needs to rely solely on teachers or textbooks for knowledge and direction. Students also engage in cross-site collaboration with other students, an experience that parallels the real-world work of an increasing number of adults in our society.

A CULTURE OF TRUST, RESPECT, AND RESPONSIBILITY

Each New Tech Network school maintains a culture that promotes trust, respect, and responsibility. Students and teachers alike take ownership of the learning experience and their school environment. Working on projects and in teams, students are accountable to their peers and acquire a level of responsibility similar to what they would experience in a professional work environment. Even the physical learning spaces at New Tech schools are designed to support student collaboration, greater communication, and sharing among students and adults.

DOCUMENTED OUTCOMES WITH A DIVERSE STUDENT BODY

According to New Tech Network, and based on information provided by the National Student Clearinghouse, an average of 74 percent of students who graduated from New Tech Network schools in 2011 enrolled in postsecondary education, a rate 9 percentage points higher than the national average. Of New Tech's graduating class of 2010, 90 percent of those attending four-year institutions continued from their freshman year into their sophomore year, a persistence rate 17 percentage points higher than the national average, and 79 percent of those students attending two-year institutions continued past their first year, a rate 46 percentage points higher than the national average. Also, a national comparison sample of the College and Work Readiness Assessment (CWRA), administered by the Council for Aid to Education, found that New Tech students demonstrated 75 percent more growth in measures of critical thinking and writing between their freshman and senior years than a comparison group.

New Visions for Public Schools

NEW VISIONS FOR PUBLIC SCHOOLS

WHY DEEPER LEARNING?

The U. S. education system must prepare students to be engaged citizens and to succeed in the high-skilled jobs that are increasingly required in the global economy. To meet these demands, students will need "deeper learning," a mix of knowledge, skills, and dispositions that include critical thinking and problem solving, effective communication, collaboration, an academic mindset, and the ability to learn how to learn – all applied to the mastery of academic content.

WHAT IS THE DEEPER LEARNING NETWORK?

A national "Deeper Learning Network" of more than 500 schools is delivering deeper learning to students in forty-one states. Composed of ten school networks it collectively serves more than 227,000 students, most of whom are low-income minority students. Each school network has a unique approach, but all foster the deeper learning skills that prepare young people for economic and civic success.

THE NETWORK: Asia Society, Big Picture Learning, ConnectEd/Linked Learning, EdVisions Schools, Envision Education, Expeditionary Learning, High Tech High, Internationals Network for Public Schools, New Tech Network, and New Visions for Public Schools.

www.deeperlearning4all.org

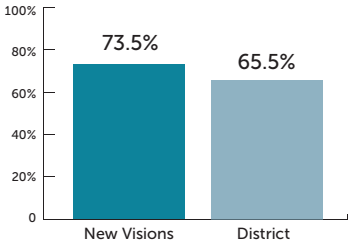
New Visions for Public Schools designs, creates, and sustains schools for New York City's highest-need students and provides educators with the tools and training they need to analyze student performance, diagnose problems, and design solutions to improve instruction. New Visions uses teacher-led inquiry as a fundamental strategy to translate higher standards into classrooms. In partnership with the New York City Department of Education, New Visions provides operational and instructional support to a network of seventy-five small public schools serving nearly 50,000 students. In addition, New Visions hosts a charter management organization, which operates a growing network of charter high schools in under-resourced neighborhoods.

A FOCUS ON TEACHERS TO HELP STUDENTS LEARN

New Visions for Public Schools believes that the best way to help students learn is to develop the professional capacity of teachers, principals, and administrators. New Visions supports groups of teachers and administrators—called school inquiry teams—to meet regularly to develop instruction, evaluate their efforts, and modify teaching practices based on assessments of student progress. The "inquiry team" approach builds staff capacity to use student data and lead school improvement efforts and creates a space for teachers to collaborate to identify emerging challenges and implement solutions. The result is a dedicated process for ensuring continuous whole-school improvement.

New Visions and its higher education partner, Hunter College School of Education, place a strong emphasis on teacher and school leader development and certification and offer two special-focus programs. The Urban Teacher Residency Program prepares individuals for careers as teachers of special education and English language arts for grades seven through twelve. The Math and Science Teacher Residency (MASTER) program brings ambitious and rigorous math and science pedagogy to the highest-need classrooms by training prospective teachers under the guidance of an experienced mentor teacher. These

NEW VISIONS STUDENTS GRADUATE AT A HIGHER RATE THAN THEIR DISTIRCT PEERS



Students at New Visions present their findings on dangerous intersections to real-world experts, including a New York City councilwoman and a transportation advocacy organization.

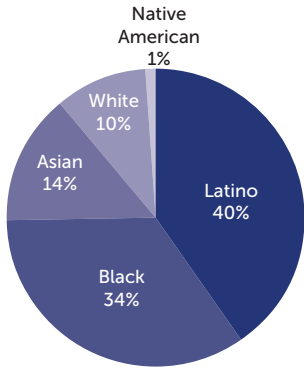
DEEPER LEARNING IN ACTION

In a New Visions Charter School ninth-grade science class, a physics teacher challenged his students to use physics concepts to explain why certain New York City intersections were dangerous and to suggest improvements. The students learned about physics rules on velocity, speed, and other forces. They conducted research using Google maps, visited the intersections to measure the reaction time, velocity, and speed of cars and pedestrians, used problem-solving and critical thinking skills to recommend changes, and prepared diagrams of their findings. But rather than simply present their findings to each other or to their teacher, they were able to present to real-world experts, including New York City's leading transportation advocacy organization and a New York City councilwoman. The students eagerly explained their findings to these guest judges, adapting their arguments based on feedback and contesting each concern that was raised. Understanding the physics was only half of the challenge—the students had to be able to present their work and defend their conclusions, drawing upon content knowledge, communication, problem-solving, and critical thinking skills.

NEW VISIONS FOR PUBLIC SCHOOLS

44,000+ STUDENTS *in* 77 SCHOOLS *in* NEW YORK CITY

DEMOGRAPHICS:



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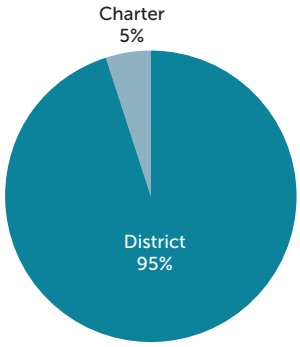

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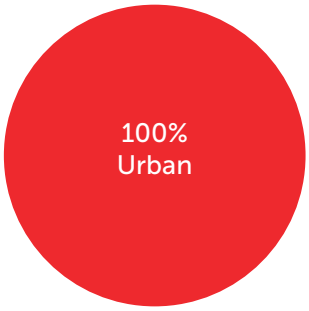

Additional demographics:

69%	16%	10%
Free or reduced lunch	Special Education	English-language learners

6 ELEMENTARY &MIDDLE SCHOOLS

13 GRADES 6-12

49 HIGH SCHOOLS

9 TRANSFER SCHOOLS

well-trained teachers will be prepared to help all levels of students master rigorous academic content aligned to the Common Core State Standards.

INTENSE SUPPORT FOR STRUGGLING STUDENTS

School inquiry teams also focus on understanding and improving support for struggling students. They examine three critical questions: (1) Which students are drifting off track? (2) What are the barriers to success? (3) How can students be brought back on track and up to speed? The team identifies students who are struggling and investigates what is holding them back, such as underdeveloped skills, learning gaps, or a lack of social support. Throughout the process, the team uses data to drive its decision-making and identifies best practices by examining research. The teams believe that, by improving outcomes for the lowest-performing students, they will uncover instructional gaps or school-design issues that affect all students in the school. By addressing those deficits that contribute to poor student outcomes, the inquiry teams are able to strengthen instructional, counseling, scheduling, and support systems for all students within their schools, enable more students to succeed and master deeper learning skills.

STUDENTS ARE CHALLENGED AND MAKE PROGRESS

New Visions schools hold high expectations for their students and help them master the skills needed to be college ready – and they are seeing positive results. New Visions schools require students to take the most challenging combination of courses in which they can be successful. Students practice writing in every core subject with rotating writing assignments, so that they are constantly writing and getting feedback on their progress. They are challenged in their lessons to discover new knowledge and to prove the basis for their arguments in group discussions, a practice that helps them become better writers, problem-solvers, critical thinkers, and communicators. As a result, the number of ninth graders earning eleven credits or more (a positive indicator of progress to graduation) increased by nine percentage points and the number of students passing at least one New York State Regents exam went up by sixteen percentage points. In 2012, New Visions schools had an average four-year high school graduation rate of 73.5 percent, nearly nine percentage points higher than the citywide average of 65.5 percent. Also, an evaluation by Policy Studies Associates found that students in the New Visions high schools outperformed their peers on multiple academic measures.

Network operator type: Partnership Support Organization and Charter Management Organization

Founded: 1989

Headquarters:
320 West 13th Street, 6th Floor
New York, NY 10014

Website: www.newvisions.org

Phone: (212) 645-5110

Email: jgreenberg@newvisions.org

Twitter: @NewVisionsNYC

Learn more about New Visions for Public Schools:
http://www.newvisions.org/pages/our-impact

APPENDIX C:
THE HEWLETT FOUNDATION DEEPER LEARNING COMPETENCIES

DEEPER LEARNING COMPETENCIES - APRIL 2013

Deeper learning is an umbrella term for the skills and knowledge that students must possess to succeed in 21st century jobs and civic life. At its heart is a set of competencies students must master in order to develop a keen understanding of academic content and apply their knowledge to problems in the classroom and on the job.

The deeper learning framework includes six competencies that are essential to prepare students to achieve at high levels.

Competencies

1. Master core academic content
2. Think critically and solve complex problems
3. Work collaboratively
4. Communicate effectively
5. Learn how to learn
6. Develop academic mindsets

The foundation of deeper learning is mastery of core academic content, whether in traditional subjects such as mathematics or in interdisciplinary fields which merge several key fields of study. Students are expected to be active participants in their education. Ideally, they are immersed in a challenging curriculum that requires them to seek out and acquire new knowledge, apply what they have learned, and build upon that to create new knowledge.

Cognitive research shows that students learn more when they are engaged in their studies and see them as important. The brain functions by organizing information into databases where things that relate to one another are connected. It determines what is worth holding onto, discarding information it considers useless. At the same time, it organizes for future reference information that is tapped frequently to accomplish important tasks.

The typical worksheet, drill-and-memorize, and test preparation approach to classroom teaching actually makes it difficult for students to retain the myriad bits of information they encounter during the school year. More effective is an instructional method that requires students to use important information repeatedly in complex and meaningful ways such as writing papers or completing projects.

Deeper learning activities should draw upon a clearly defined knowledge base to which students have previously been exposed or to which they will be introduced systematically in the context of their academic work. Activities that are not linked the development of academic content knowledge and skills should be viewed with caution.

In practice, deeper learning prepares students for postsecondary education. They should graduate from high school equipped to:

1. **Master core academic content.** Students develop and draw from a baseline understanding of knowledge in an academic discipline and are able to transfer knowledge to other situations.
    a. Students understand key principles and relationships within a content area and organize information in a conceptual framework.
    b. Students learn, remember, and recall facts relevant to a content area.
    c. Students have procedural knowledge of a content area and know how content knowledge is produced and how experts solve problems.
    d. Students know and are able to use the language specific to a content area.
    e. Students extend core knowledge to novel tasks and situations in a variety of academic subjects.
    f. Students learn and can apply theories relevant to a content area.

g. Students enjoy and are able to rise to challenges requiring them to apply knowledge in nonroutine ways.

h. Students apply facts, processes, and theories to real world situations.

Deeper learning activities require learners to draw information from knowledge they have acquired and then do something meaningful with it. Because the brain must develop the internal wiring necessary to process information efficiently in non-routine ways, deeper learning activities should be structured to give students multiple opportunities, over time, to apply knowledge in a range of challenging tasks. In essence, the learner moves from the novice to the expert level within the sphere of knowledge and expertise in question. This requires a range of strategies for processing information in sophisticated ways. Those strategies vary somewhat based on the subject area and nature of the activity, but all involve a commitment to systematic thought and analysis.

2. **Think critically and solve complex problems.** Students apply tools and techniques gleaned from core subjects to formulate and solve problems. These tools include data analysis, statistical reasoning, and scientific inquiry as well as creativity, nonlinear thinking, and persistence.

    a. Students are familiar with and able to use effectively the tools and techniques specific to a content area.

    b. Students formulate problems and generate hypotheses.

    c. Students identify data and information needed to solve a problem.

    d. Students apply tools and techniques specific to a content area to gather necessary data and information.

    e. Students evaluate, integrate, and critically analyze multiple sources of information.

    f. Students monitor and refine the problem-solving process as needed, based on available data.

    g. Students reason and construct justifiable arguments in support of a hypothesis.

    h. Students persist to solve complex problems.

3. **Work collaboratively.** Students cooperate to identify and create solutions to academic, social, vocational, and personal challenges.

    a. Students collaborate with others to complete tasks and solve problems successfully.

    b. Students work as part of a group to identify group goals.

    c. Students participate in a team to plan problem-solving steps and identify resources necessary to meet group goals.

    d. Students communicate and incorporate multiple points of view to meet group goals.

4. **Communicate effectively.** Students clearly organize their data, findings, and thoughts.

    a. Students communicate complex concepts to others in both written and oral presentations.

    b. Students structure information and data in meaningful and useful ways.

    c. Students listen to and incorporate feedback and ideas from others.

    d. Students provide constructive and appropriate feedback to their peers.

    e. Students understand that creating a quality final communication requires review and revision of multiple drafts.

    f. Students tailor their message for the intended audience.

Deeper learning requires a broader range of conscious learning behaviors from students than traditional schoolwork. They must accept responsibility for expending the time and energy necessary to think about a task, select the proper learning strategies, and judge how well those strategies are working. When students encounter difficulty or setbacks, deeper learning requires that they diagnose the type of difficulty they are facing, select appropriate strategies to resolve the difficulty, and continue forward toward their learning goal. In addition, deeper learning

expects students to be able to meet shared goals with others as well as to engage in the self-reflection necessary to continue learning throughout their lives.

5. **Learn how to learn**. Students monitor and direct their own learning.
    a. Students set a goal for each learning task, monitor their progress towards the goal, and adapt their approach as needed to successfully complete a task or solve a problem.
    b. Students know and can apply a variety of study skills and strategies to meet the demands of a task.
    c. Students monitor their comprehension as they learn, recognize when they become confused or encounter obstacles, diagnose barriers to their success, and select appropriate strategies to work through them.
    d. Students work well independently but ask for help when they need it.
    e. Students routinely reflect on their learning experiences and apply insights to subsequent situations.
    f. Students are aware of their strengths and weaknesses, and anticipate needing to work harder in some areas.
    g. Students identify and work towards lifelong learning and academic goals.
    h. Students enjoy and seek out learning on their own and with others.
    i. Students anticipate and are prepared to meet changing expectations in a variety of academic, professional and social environments.
    j. Students delay gratification, refocus after distractions, and maintain momentum until they reach their goal.
    k. Students use failures and setbacks as opportunities for feedback and apply lessons learned to improve future efforts.
    l. Students care about the quality of their work and put in extra effort to do things thoroughly and well.
    m. Students continue looking for new ways to learn challenging material or solve difficult problems.

Deeper learning requires students to develop positive attitudes and beliefs about themselves in relation to academic work. Academic mindsets are the motivational components that influence students' engagement in learning. In turn, engagement in deeper learning reinforces positive academic mindsets. Students with strong academic mindsets readily put in effort to learn and persist in the face of difficulty. They make use of cognitive, metacognitive, and self-regulatory strategies because they care about learning and are purposeful in doing what is required to succeed.

6. **Develop academic mindsets.** Students develop positive attitudes and beliefs about themselves as learners that increase their academic perseverance and prompt them to engage in productive academic behaviors. Students are committed to seeing work through to completion, meeting their goals, and doing quality work, and thus search for solutions to overcome obstacles.

    I belong in this academic community:

    a. Students feel a strong sense of belonging within a community of learners and value intellectual engagement with others.
    b. Students understand learning as a social process and actively learn from one another and support each other in pursuit of learning goals.
    c. Students readily engage in the construction of meaning and understanding through interaction with peers.

    I can succeed at this:

    d. Students trust in their own capacity and competence and feel a strong sense of efficacy at a variety of academic tasks.
    e. Students see themselves as academic achievers and expect to succeed in their learning pursuits.

My ability and competence grow with my effort:

f. Students believe that hard work will pay off in increased knowledge and skills.

g. Students are motivated to put in the time and effort needed to build a solid knowledge base and to accomplish important goals.

This work has value for me:

h. Students perceive the inherent value of content knowledge and of learning and developing skills.

i. Students see the relevance of school work to their lives and interests.

j. Students understand how work they do now will benefit them in the future.

k. Students know that future learning will build upon what they know and learn today.

APPENDIX D:
DEEPER LEARNING RESOURCES

WEBSITES

The Hewlett Foundation Deeper Learning Website
www.hewlett.org/deeperlearning

Alliance for Excellent Education Deeper Learning Website
www.deeperlearning4all.org/

National Association of State Boards of Education (NASBE) Deeper Learning Website
www.nasbe.org/project/deeper-learning/

REPORTS

Alliance for Excellent Education: A Time for Deeper Learning
http://all4ed.org/wp-content/uploads/2013/06/DeeperLearning.pdf

Alliance for Excellent Education: Assessing Deeper Learning
http://all4ed.org/wp-content/uploads/2013/06/AssessingDeeperLearning.pdf

Education Week: Spotlight on Deeper Learning
http://www.edweek.org/media/downloads/files/spotlight-deeper-learning.pdf

Getting Smart: How Digital Learning Contributes to Deeper Learning
http://gettingsmart.com/wp-content/uploads/2012/12/Digital-Learning-Deeper-Learning-Full-White-Paper.pdf

National Research Council (NRC): Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century
http://www.nap.edu/catalog.php?record_id=13398

ENDNOTES

[1] **The Business Council**. "CEO Survey Results." February 2013. http://www.thebusinesscouncil.org/assets/TCB_BCS_FEB_2013.pdf

[2] **Vander Ark, T**. "CEOs Want Hard-Working Decision-Making Team Players." Getting Smart blog. May 2013. http://gettingsmart.com/2013/05/ceos-want-hard-working-decision-making-team-players/

[3] **ibid**.

[4] Quotes from school leaders and staff members are based on personal communication by phone, email or in-person conversation unless otherwise cited.

[5] This report also brings together numerous blog posts from http://www.GettingSmart.com and http://blogs.edweek.org/edweek/on_innovation/ that have been updated and repurposed for inclusion herein.

[6] **Fullan, M and Langworthy, M**. "Towards a New End: New Pedagogies for Deep Learning." June 2013. http://www.newpedagogies.org/

[i] **The Hewlett Foundation.** "Deeper Learning Competencies." April 2013. http://www.hewlett.org/uploads/documents/Deeper_Learning_Defined__April_2013.pdf

[ii] **ibid.**

[iii] **Vander Ark, T.** "Book Review: The Leader's Guide to 21st Century Education." Getting Smart blog. March 2013. http://gettingsmart.com/2013/03/the-leaders-guideto-21st-century-education/

[iv] **Fullan, M and Langworthy, M.** "Towards a New End: New Pedagogies for Deep Learning." June 2013. http://www.newpedagogies.org/

[v] **The Alliance for Excellent Education.** "A Time for Deeper Learning: Preparing Students for a Changing World." May 2011. http://www.all4ed.org/files/DeeperLearning.pdf

[vi] **United States Department of Education.** "The Economic Imperative for Improving Education." www2.ed.gov/about/offices/list/ovae/pi/hsinit/papers/econimp.doc

[vii] **The Business Council and The Conference Board.** "CEO Survey Results." February 2013. http://www.thebusinesscouncil.org/assets/TCB_BCS_FEB_2013.pdf

[viii] **Fullan, M. and Langworthy, M.** "Towards a New End: New Pedagogies for Deep Learning." June 2013. http://www.newpedagogies.org/

[ix] **Bailey, J., Schneider, C., Sturgis, C., Vander Ark, T.** "The Shift from Cohorts to Competency." http://www.digitallearningnow.com/wp-content/uploads/2013/01/CBPaper-Final.pdf

[x] **Vander Ark, T.** "Fortified Environments Turnaround Impacts of Poverty." Getting Smart blog. August 2013. http://gettingsmart.com/2013/08/fortified-environmentsturnaround-impacts-of-poverty/

[xi] **New Tech Network**. "Our Elements." http://www.newtechnetwork.org/about/our-elements

[xii] **Anderson, A.** "New Tech Expands Online PBL Across Network." Getting Smart blog. August 2013. http://gettingsmart.com/2013/08/new-tech-expands-online-pblacross- network/

[xiii] **Alliance for Excellent Education**. "Culture Shift: Teaching in a Learner-Centered Environment Powered by Digital Learning". http://all4ed.org/wp-content/uploads/2013/08/CultureShiftSummary.pdf

[xiv] **Vander Ark, T.** "Good Schools Start With Good Goals." Getting Smart blog. December 2012. http://gettingsmart.com/2012/12/good-schools-start-with-good-goals/

[xv] **Anderson, A.** "Defining STEAM at Bracken Academy." Getting Smart blog. June 2013. http://gettingsmart.com/2013/06/defining-steam-at-bracken-academy/

[xvi] **Vander Ark, T.** "Smart Cities: Kansas City." Getting Smart blog. June 2013. http://gettingsmart.com/2013/06/smart-cities-kansas-city/

[xvii] **Vander Ark, T.** "Kansas City: A Great Education Improvement Story." Getting Smart blog. September 2011 http://gettingsmart.com/2011/09/kansas-city-a-great-education-improvementstory/

[xviii] http://www.census.gov/newsroom/releases/archives/governments/cb11-94.html

[xix] **Vander Ark, T. and Schneider, C.** "How Digital Learning Contributes to Deeper Learning." December 2012. http://gettingsmart.com/wp-content/uploads/2012/12/Digital-Learning-Deeper-Learning-Full-White-Paper.pdf

[xx] **Ibid.**

[xxi] **Fullan, M and Langworthy, M.** "Towards a New End: New Pedagogies for Deep Learning." June 2013. http://www.newpedagogies.org/