Seizing the Moment:
**Realizing the Promise
of Student-Centered
Learning**

Contents

Forward

Forty plus years ago I received a BA in Psychology from Antioch-West by executing my own student-centered learning plan. I followed that with a competency-awarded MS in Counseling from Cal State Hayward (now East Bay). As I look back on broader trends in education since that time, it turns out that my post-secondary experience was not the harbinger of broad educational innovation that I thought it would be. Even so, these experiences profoundly shaped the way I think about and approach teaching and learning.

At Our Piece of the Pie, we live and breathe student-centered learning. It's the essence of what we do and how we do it. For us, learning is about establishing and nurturing relationships, and building a community in which we all share, we all learn, and we all grow together. So having successfully utilized student-centered approaches for many years with off-track and out-of-school young people, the thought occurred to me of bringing together other experienced and committed educational leaders to explore their beliefs about the power of learner-focused approaches, and to identify a set of action-oriented principles to promote them.

With support from the Nellie Mae Education Foundation, this idea became a reality in early November 2015, when a group of practitioners and thought leaders from different regions of the country and a variety of educational institutions gathered in Hartford to consider how to extend the benefits of student-centered learning to many more young people, particularly those who are often not well-served by our public education systems. This document grew from those conversations.

And one final thought. My father was born to Presbyterian missionaries in the Philippines on August 14, 1919 and resided in Maasin for much of his early life. He was home-schooled by his mother until the age of 12 when he was sent to boarding school traveling by himself on two boats 24 hours away to Dumaguete.

He told me the driving force for his will to learn were his mother's words, "seize the moment of excited curiosity for the acquisition of knowledge." He continues his learning at 96 and a half, with the help of Amazon's Alexa, reading *The Vital Question* and *The Universe*.

Our issue brief is truly an echo from my grandmother and my father that needs to reverberate ever more loudly until we embrace student-centered education for everyone.

— Bob Rath, CEO, Our Piece of the Pie ®, Inc.

I. Introduction

We live in extraordinary times. The accelerating pace of technological innovation and disruption shapes all aspects of our lives. Further, political upheavals around the globe, the growing focus on social mobility and economic inequality here and abroad, and the explosion of new scientific knowledge, present an era of unique challenges, and unprecedented opportunities.

Appreciating these realities, our goal in preparing and releasing this issue brief is to stimulate a broader conversation about how we can best prepare our children to live, work, and thrive in such times—in today's world, and more importantly, in the unknowable and unpredictable future to come. Whatever shape that future takes, a great deal will be expected of our young people, and they will need to be ready for what comes next.

Unfortunately, in our view the educational approaches practiced in far too many of today's schools do not and will not meet this standard, and are simply not good enough to prepare students to live and work meaningfully, effectively, and productively in the 21st century.

Recognizing this, we advocate for concerted, collaborative efforts to reimagine and renew the ways in which we educate and prepare our citizens to live in times that will continue to be extremely challenging, and likely to be very different from our own. In particular, we believe that **student-centered learning**, which engages individuals and their teachers in powerful experiences that inspire a passion for learning and understanding, is the best way to prepare students for the unknowable future that lies ahead.

To be clear, our primary objective is to elevate the learning and readiness of students regardless of color or zip code, and to combat the growing economic inequalities that are so pervasive across our country. It's crystal clear that millions of students are not succeeding in traditional classrooms, and we can no longer afford to waste their talents and gifts. At the same time, even students in our best schools often have inadequate opportunities to build and master the kinds of skills they will need to flourish: self-discipline, self-direction, collaborative problem-solving, and the habits of life-long learning.

We believe that student-centered learning represents an opportunity to address both of these needs simultaneously. It is truly a "both/and" proposition, which can help to close achievement gaps while also raising the bar for all students. In our own educational institutions—which include traditional public schools, public charters, alternative and second-chance programs, hybrids, and more—we see the power of these pedagogies to engage students in learning that excites and compels them to want to learn more. And based on our experiences, there is every reason to believe that many more young people can and will benefit from a broader use of these techniques.

We also believe that this is a time of great opportunity, when we can work together to provoke and begin to realize these changes. In recent years there has been a slow but steady growth in the adoption of student-centered and

My passion is being sure that each student in front of me is educated to a high standard— to be prepared for what's coming…
— Dena

Too many young people are being pushed out of the system—and away from social and economic opportunity.
— Judy McBride
Hartford Foundation for Public Giving
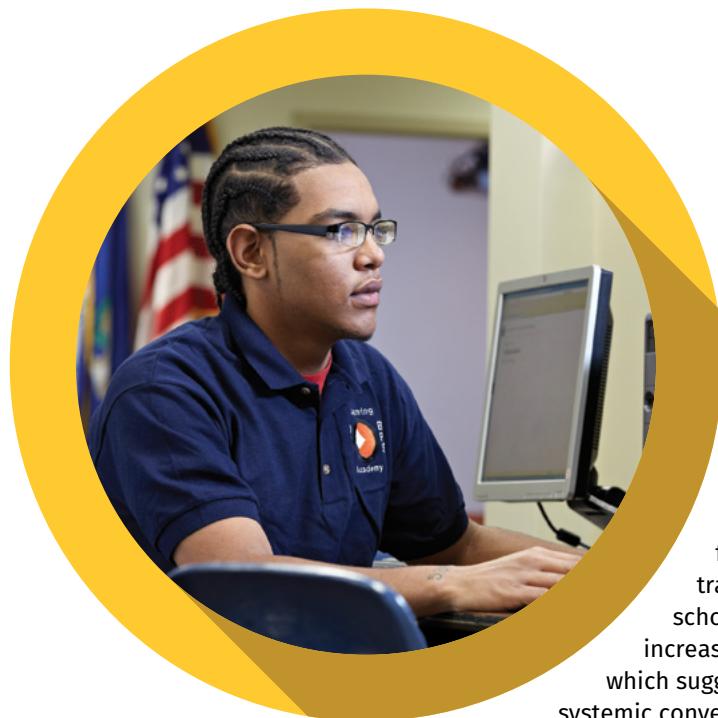
related learning practices. These techniques, which were once limited to selective, private academies for affluent students where young people are encouraged to think creatively and follow their interests, can now be found in public charter schools, alternative education and training institutions, and in some forward-thinking public school systems. While still limited, there appears to be an increasingly solid base of experience and practice for this work which suggests that, as a society, we might be ready to have a more systemic conversation about fundamental educational renewal.

There is also a growing body of evidence that points to the efficacy of student-centered approaches. Several research reports, which we reference below, have explored various aspects of these pedagogies and found, in the main, that they are making important, positive differences in student achievement, particularly for those young people who are traditionally under-served by public school systems.

And finally, the advent of the new Every Student Succeeds Act, the latest iteration of the Great Society-era Elementary and Secondary Education Act, provides major new opportunities for states and local school districts to reconsider how they can best provide educational opportunities for all students. In particular, the new law holds great promise for advancing public education by encouraging and promoting the growth and spread of innovative, evidence-based, student-centered approaches to learning. Therefore, if Justice Brandeis was correct in his assertion that states are laboratories of democracy, then this should be an exceptional opportunity for educational innovation.

Schools are evolving. That's just the way it is. The question is, who will benefit from the change?
— Nick

For all of these reasons, we believe the time is right to redouble efforts to uncover and unleash students' potential to learn and apply knowledge, to pursue and refine their talents, and to become the kinds of lifelong learners they will need to be for success in the balance of the 21st century.

This policy brief is organized around the themes that emerged from our Hartford discussions. In the pages that follow, we detail those themes, while referencing recent, relevant research which relates to them. These discussions are followed by a series of recommendations for building public will in support of student-centered learning, including policy priorities that can help to expand its practices more broadly. We also incorporate profiles of schools and programs led by several participants in our Hartford discussions, which illustrate the power of student-centered learning in action. But we begin with a discussion of terms and definitions.

II. A Note on Terms

Several terms are used by practitioners and researchers to describe educational practices dedicated to meeting the individual interests and needs of students. We prefer "student-centered learning" because, in our view, it communicates clearly and directly the central component of the educational strategy: creating an educational system focused on the needs of learners.

The Nellie Mae Education Foundation describes student-centered learning[1] as having four essential attributes:

— *Learning is personalized:* it recognizes that students engage in different ways and in different places. Students benefit from individually-paced learning that starts from where they are, and formatively assesses their skills and addresses their needs.

— *Learning is competency-based:* students move ahead as they demonstrate mastery, not when they've reached a certain birthday or completed required times in classrooms.

— *Learning happens anytime, anywhere:* learning takes place beyond the school day and year. Schools' walls are permeable; learning is not restricted to classrooms.

— *Students take ownership:* student-centered learning engages students in their own successes—incorporating their interests and skills into the learning process, and providing for self-reflection on their progress.

These core concepts are consistent with definitions found in numerous research reports and policy briefs on student-centered learning and related pedagogies. Other attributes often appearing in the literature include the flexible and innovative use of technology for delivering curricula, assessment and reporting; the imperative to strengthen and redefine the roles of teachers; the importance of non-cognitive skill-building; and a commitment to educational equity.

Perhaps the most frequently-employed alternative is "personalized learning." Based on a two-year, field-based research study, the International Association for K–12 Online Learning (iNACOL) crafted a definition for the term which is now widely recognized: "Personalized learning is tailoring learning for each student's strengths, needs and interests—including enabling student voice and choice in what, how, when and where they learn—to provide flexibility and supports to ensure mastery of the highest standards possible."[2]

To paraphrase iNACOL CEO Susan Patrick, student-centered learning is about designing the instruction around meeting student needs. Personalized learning is about focusing on each student, as in "per person." Each of these design ideas promotes similar strategies such as individualized and self-directed learning, collaboration, and competency-based advancement.

They also suggest new relationships between students and teachers in which both engage in powerful learning experiences. This expanded relationship is at
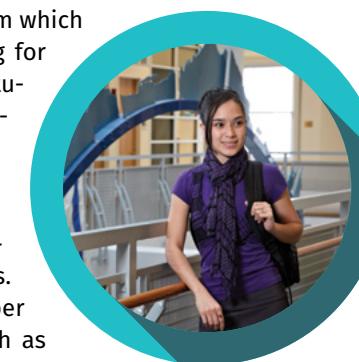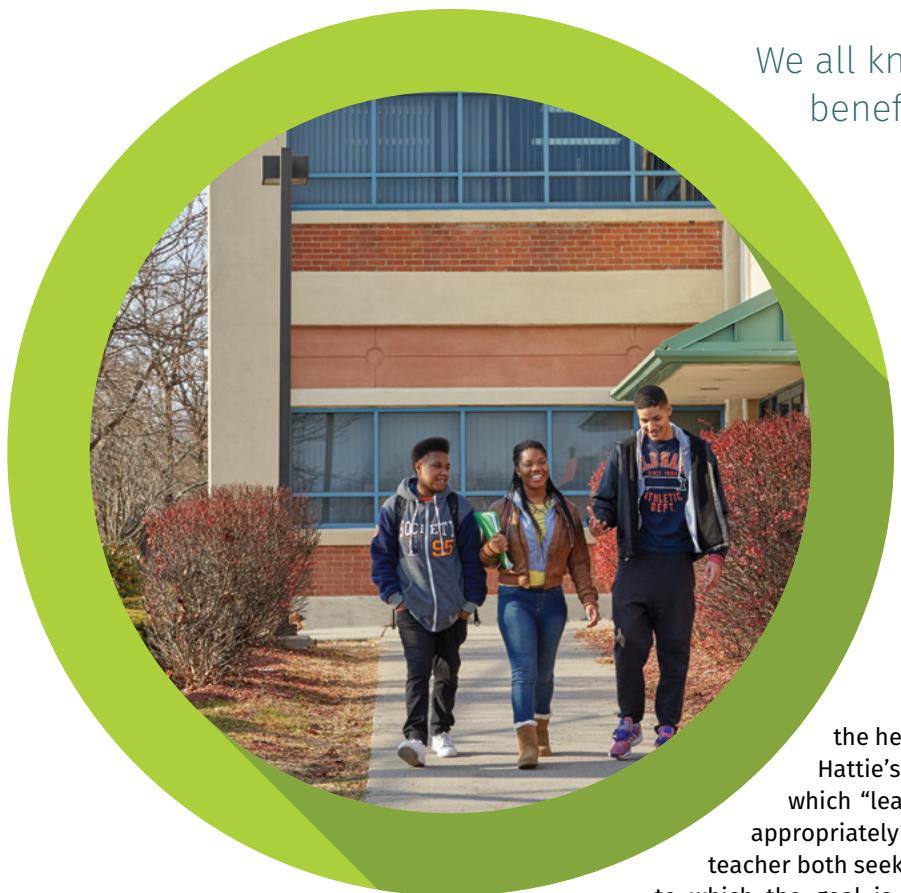
We all know someone who could benefit from a small, trusting, learning environment.

— Linda

the heart of New Zealand researcher James Hattie's concept of "visible learning," in which "learning is the explicit goal, when it is appropriately challenging, when the student and teacher both seek to ascertain whether and the extent to which the goal is attained, when there is deliberate practice to attain mastery of the goal, when there is feedback given and sought, and when there are active, passionate, and engaging people (students, teachers, peers…) participating in the act of learning."[3] We will have more to say on this point later in the brief.

Other related concepts include "deeper learning," in which students are developing and using their knowledge and skills in ways that prepare them for real life, helping them to make and find connections and creating stronger intrinsic motivation. The deeper learning framework identifies six key student competencies: mastering core academic content; thinking critically and solving complex problems; working collaboratively; communicating effectively; learning how to learn; and developing academic mindsets.[4]

Although there are differences, these terms have many common elements and all speak to the importance of providing learning experiences that empower and prepare students for productive futures. Because of these similarities, in this brief we reference research findings on each of these educational approaches.

III. Principles and Beliefs

Our day-long discussions in Hartford touched on a range of themes, principles and beliefs about the importance of expanding student-centered learning. In this section, we identify those key themes, and detail why we consider these points to be crucial to the educational renewal that we need for our students, teachers, and communities. We also include relevant research citations which reinforce these beliefs.

Principle #1: **Design to the edges.**

This phrase emerged as the rallying cry for our day together. It comes from the work of Todd Rose, whose TED Talk[5] makes a powerful plea to deploy educational technologies in ways that can develop truly individualized instructional strategies that meet the needs of all learners. Rose tells the story of the Air Force's experience with military fighter cockpit design. Originally, the Air Force tried to build cockpits that would accommodate the "average" pilot. However, experience showed that an average cockpit actually limited the number of successful candidates. Simply speaking, too many would-be pilots couldn't operate the plane because their frames were either too large or too small to fit the "average" cockpit. Finally realizing this, the Air Force changed the design specifications to produce cockpits that would accommodate the greatest possible variety in body types, which increased the number of would-be pilots who could safely operate the planes.

Similarly, Rose argues, there is no such thing as an "average" student, and it is counterproductive to continue to organize instruction as if there were, with common text books, assignments, and instructional strategies. Given today's theories of learning and emerging technologies, we can design educational systems that accommodate, adjust to, and take maximum advantage of students' differing interests, talents and needs, rather than utilizing the standard-issue, one-size-fits-all approach employed in most classrooms over the last century. We can design a system that incorporates all the essential elements for student learning—one that expands to and is inclusive of the edges.

Rose and Gravel reach the same conclusion coming from a neuro-scientific perspective. In short, they conclude that "there is no mythical average learner," and therefore suggest that personalized, student-centered pedagogies can be much more appropriate and effective.[6]

These approaches also have powerful effects on student achievement, with several analyses suggesting that employing personalized, student-centered learning techniques can produce positive outcomes for many different types of students, including those who often struggle. For example, Centered on Results (2015) reviews several related studies of student-centered learning which, overall, found that outcomes were "largely positive, demonstrating meaningful effects on student achievement and engagement,[7] with some of the most positive results found "for students traditionally underserved by schools."[8]

This is at the heart of the challenge of serving all kids.

— Judy

resource

Anytime Anywhere: Student-Centered Learning for Schools and Teachers.

Rose and Gravel refer to research confirming brain specialization and differentiation, and reiterate that the brain's characteristics result from complex interactions between genetics and individuals' interactions with their environments.

Hinton, Fischer, and Glennon reach an equally straightforward conclusion: "each student has a unique profile of strengths and limitations," suggesting that student-centered approaches offer the best opportunities to enhance learning for all.

resource

Student-Centered Schools: Closing the Opportunity Gap

An analysis of four urban high schools in California found that student-centered strategies proved successful in helping low-income and majority black and Latino students to outperform peers in surrounding districts: scoring higher on state academic assessments; graduating more students; preparing more students for college entry; and increasing college persistence.

> The focus of our work is people. Early relationship building is essential to long-term success.
> — Bob

Principle #2: **Embrace the inevitable movement toward mass, customizable education.**

One of the most important aspects of student-centered learning is building and nurturing relationships—between students and teachers, students and peers, and students with caring adults inside and beyond the school walls. We believe that appropriate uses of educational technology can strengthen these bonds by creating new opportunities for students to discover and pursue interests individually and collectively, to interact with their teachers, to master key competencies, and to extend learning into the wider community and beyond.

The phrase "mass, customizable education," popularized by Schwahn and McGarvey,[9] captures the sense of our group about the seemingly irresistible drive towards personalization and customization in learning, aided by technology, and how these forces increasingly influence the learning of young people. As Schwahn and McGarvey note, customization is increasingly the way of the world: in entertainment—*individualized playlists*; in marketing—*you might also like*; and in the news—*headlines and feeds just for you*.

Of course, education is very different from marketing and entertainment. Even so, this is the world of today's students. From their earliest weeks and months, children are exposed to technology, and quickly learn to manipulate it to explore the world. In these ways, they learn to determine preferences and establish priorities among the dizzying array of topics and information available to them. This process of customization, which begins earlier and earlier—and is abetted by ubiquitous smart phones and tablets—has become a central feature of communication, learning, and information-gathering and sharing for most students. With this seemingly—and perhaps literally—endless access to information, data, and knowledge at their fingertips, certainly it makes sense to utilize these tools and the customizable educational opportunities that they represent to increase interest, engagement, access, and equity.[10]

Of course, customization is not necessarily reliant on technology. Teachers have worked hard over the years to deliver individualized educational programming based on their students' needs. As Parthenon–EY puts it, "For educators, technology should be treated as a potential enabler of student-centered learning, and not a necessary component."[11] Furthermore, schools seeking to utilize technology in support of student-centered practice face

> We need to connect to the values that are driving students' own learning...
> — Steve

challenges, including infrastructure, access, training, and the lack of comprehensive, interactive systems.

Nor is technology sufficient to deliver customized, student-centered approaches, which, as we have suggested, require a deep engagement between teachers, student, and peers. For example, on-line lectures without opportunities for interaction would hardly be considered student-centered.

Despite these caveats, it is clear that technology can enable and promote student-centered learning by giving students, teachers and administrators the tools they need to practice it more expansively. Based on in-depth interviews with a variety of educators and technology experts, Parthenon-EY finds that very important work has been accomplished in the last several years in expanding the uses of technology, and that schools pursuing student-centered practices exhibit a wide range of approaches to its utilization. Further, Parthenon-EY has worked with educators and technology experts to conceptualize how specific technology-enabled features, such as knowledge maps and assessment engines, can support corresponding learning elements, e.g. academic standards and assessments.

In short, while the wide-spread implementation of interactive educational technologies presents challenges, it seems extremely likely that these new tools will continue to be adopted and utilized, and that they have the potential to create more opportunities to advance student-centered approaches.

who we are

Metropolitan School District of Warren Township

Indiana

http://www.warren.k12.in.us/

INNOVATE INSPIRE
EDUCATE
WARREN

Organization Summary
The Metropolitan School District of Warren Township is an urban school district located on the east side of Indianapolis. We serve approximately 12,300 students in grades kindergarten through twelfth grade in a district comprised of nine elementary buildings, three intermediate academies, three middle schools, a high school, and an alternative school. In addition, Warren has an early childhood center and a career center.
With the mission to *Innovate at all times. Educate all. Inspire everyone*

to *live a full and fulfilling life,* we offer comprehensive, state-of-the-art technology for students to extend the walls of the classroom, enhance the use of classroom instructional technologies to promote interaction, and encourage technology integration to support learning.

Student-Centered Learning in Action
In Warren Township, personalized learning refers to instruction that is paced to the learning needs, tailored to

learning preferences, and individualized to the specific interests of each student. Learning is constant while time is variable, enabling students to find an inspired purpose for learning because they are centered in their own learning process, making themselves "the architects of their own learning."
Through our 1:1 initiative, real time data makes it possible to intervene when a student is struggling. We no longer have to wait until a student fails a quiz or test to discover that she or he did not understand

the material. Furthermore, technology is proving to be highly beneficial in student-centered classrooms by helping us reengage at-risk students, and retain students looking for alternatives to traditional classroom instruction.
In short, it is now possible to provide each of our students with the level of personalized instruction they need to be successful. We are thrilled to be able to offer rigorous, standards-based digital content that enables us to meet the needs of each student anytime/anywhere, and

provide an alternative to the one-size-fits-all classroom.
Our purpose is to prepare our students to be self-directed learners who are literate, creative, curious, civic-minded citizens who do meaningful work in school and life beyond schools. In our experience, student-centered approaches are powerful tools which can help us to achieve these goals.

Principle #3: **Redefine the Relationship Between Students and Teachers, as well as Schools and Communities.**

For us, this is the heart of the matter. From the outset of the American experiment with public education, the dominant mode of instruction has been that of teachers as the repositories and conveyors of knowledge, and students as passive vessels into which that knowledge is poured and stored.

Student-centered classrooms dramatically alter this conventional view of teaching and learning.

As noted in the discussion for Principle Two, student-centered learning is grounded in relationships, especially between students and teachers. These relationships can produce powerful learning experiences for both, based on mutual trust and shared understanding of and commitment to learning goals. As Hattie puts it based on his meta-analysis of school improvement strategies, "the biggest effects on student learning occur when teachers become learners of their own teaching, and when students become their own teachers." When students become their own teachers, he writes, they "develop the self-regulatory attributes" which are most conducive to learning, including self-monitoring, self-evaluation, and self-assessment.[12]

These transformations take place as young people – with individual support from their teachers – are able to appreciate and leverage their strengths and begin to understand how to take responsibility for their own learning. In this way, they steadily build their capacities to be thoughtful, curious, and passionate consumers and producers of knowledge, who not only engage fully in classrooms, but also participate meaningfully in their communities and in other aspects of their lives.

And as they work with their teachers to design learning paths based on their own interests and needs, they are motivated to explore topics in depth, and to apply knowledge to new situations. These developing capacities for self-motivation and self-direction help to explain the academic benefits of student-centered learning, discussed earlier. As Walters and his colleagues note, "Students in more student-centered math classrooms report being more engaged in how much they are learning and how interested they are in the material," and "benefit from student-centered approaches to math in ways that matter," e.g. problem-solving and critical thinking.[13]

> *It's about changing education to respect and build on student brilliance…*
> — Tony

There are also important benefits for teachers. For example, the RAND Corporation[14] reports that "researchers found positive perceptions among teachers about school environment, including professional development, working conditions, and access to and use of technology that were conducive to implementing personalized learning practices." Further, Toshalis and Nakula echo Hattie when they state that "we might best understand teachers as the 'chief learners' in the classroom." And "when students gain access to the chief learner's way of motivating, engaging and expressing himself or herself, they can begin to see how their own thinking, emotions, and experiences shape their learning."[15]

In addition to focusing on transformation and regeneration in the classroom, student-centered learning also has the potential to strengthen and expand relationships with parents and the broader community through distributing and disbursing power and authority, inviting these stakeholders into conversations about how best to meet the educational needs of young people. Tapping the insights of communities not only helps to develop and articulate a broader and more inclusive vision for education, but also can help to build the capacity to challenge and overcome barriers to achieving student-centered learning.

Principle #4: **Create Deeper and More Expansive Measures of Student Success.**

If it's true that you get what you measure, then our current thinking about what we teach and how we assess learning needs to be much deeper, inclusive and expansive. That's because today's students will need a variety of sophisticated life and work skills—the capacities for self-direction and self-efficacy, critical and creative thinking, resiliency, and positive habits and dispositions toward learning[16]—in addition to mastery of academic competencies. Student-centered learning helps to promote this more expansive definition of student success.

One of the ways in which student-centered practices develop broader skill sets is by opening up new options for learning and assessment that go far beyond the traditional classrooms. As LaBianca et al.[17] note in their analyses of blended instruction at STEM21 Academy, student-centered practice often includes experiential learning opportunities which "engage students meaningfully with the curriculum, often in settings beyond the classroom walls," including visits to "authentic learning environments, as well as businesses and college campuses, where they have opportunities to interact with knowledgeable adultmentors."

> *The key is the empowerment of teachers…unleashing them to become educational leaders…*
> — Bea

> Genius has
> multiple outcomes.
> — Tony

These experiences offer students the opportunity to "collaborate with professionals through off-campus meetings, online video conferences, in-person interviews, guest lectures, and an end-of-year exposition."[18] For decades, these types of opportunities have been available to students in forward-thinking schools, and they are only enhanced by advances in technology, which now allow students to "access differentiated learning activities and participate in tutorials, online forums, and other forms of virtual interaction through an online platform."[19]

Of course, these types of experiential learning require flexible forms of assessment. The good news is that teachers have long utilized student-centered assessment strategies with very positive results. For example, Andrade, Huff and Brooke report that "a variety of classroom, student-centered assessments are associated with significant gains in student learning and achievement," including teacher-facilitated self- and peer-assessment, portfolios, performances and exhibitions.[20] These approaches allow students to tell the stories of their growth by documenting evidence of work along the way.

Student-centered assessments are made even more powerful through interactive technology, which enables teachers to provide real-time feedback to students, and to respond immediately to their needs. La Bianca notes that digital portfolios "enable students to demonstrate knowledge and skills, define their interests, focus on building particular expertise, communicate ideas and personal values, and celebrate growth." Furthermore, these strategies facilitate digital exchanges of work and information with teachers, parents, colleges, and potential employers, and also allow students to interact and share their work with professionals in their fields of interest and receive constructive feedback from mentors.[21]

Considering the power of these approaches, Andrade, Huff and Brooke argue that student-centered assessment can be a tool not only to measure but also to promote learning. Specifically, in addition to assessing progress towards designated targets, student-centered assessment also "promotes learning and

growth, motivates students, actively engages students in regulation of their own learning, and is informative and useful by a variety of audiences."

The authors also identify several other examples of student-centered approaches, including self-assessment, with specific procedures involving establishing learning goals (which ranked high on Hattie's list of effective practices); evaluating progress; and revising content based on feedback.

Principle #5: **Build Public Will to Realize these Changes.**

There is broad support for student-centered learning strategies among researchers, practitioners, and parents whose children have access to these educational approaches. Even so, these concepts are not well understood by the most of the general public, or many school parents, and therefore there is limited demand for their adoption and/or expansion.

There are reasons for optimism. In fact, some experts have found that there is growing support across the country for practices associated with student-centered learning. For example, Wolfe, Steinberg and Hoffman note that, despite a number of barriers, "interest is in student centered approaches to learning is growing" due to new neuroscience research on how children learn, advances in educational technology, and the advent of the Common Core State Standards, which focus on equitable access and college and career readiness for all students.[22] Of course, it must be noted that there appears to be some retreat from the Common Core, and this trend could accelerate with the adoption of the Every Student Succeeds Act.

Furthermore, Sturgis reports positive findings concerning the growth of competency-based instruction, often considered to be a pre-condition for effective student-centered learning. She reports that "Nearly 90 percent of states have created some room for competency-based innovations."[23] In addition, according to an Alliance for Excellent Education's policy brief, "Hundreds of schools across the country are now incorporating deeper learning principles

> We need to shape
> spaces where learning
> can really thrive—for
> students and teachers…
> — Steve

Organization Summary

High School for Recording Arts (HSRA) is defined by its commitment to finding and nurturing the genius and creativity of every student despite life challenges or setbacks. Our school is built around the recognition that every learner has special talents and strengths, passionate interests, impactful personal experiences, and unique perspectives on learning and the world. We actively recruit students that have dropped out, are over-aged and under-credited, or have not found success in the traditional educational system.

To better reach these students, we believe in creating a dynamic educational environment rooted in the arts and creativity that inspire our students to transcend individual barriers to success. Rooted in Hip Hop culture, which values creativity and embodies the struggle for freedom, HSRA promotes a spirit of entrepreneurship, technological expertise, and authentic artistic expression by embracing and continually redefining our academic culture through student-centered expression and reflection.

Student-Centered Learning in Action

At HSRA, it is important that students' experiences are matched with appropriate supports and connections to enhance their potential. We believe the key to meaningful learning lies in authentic acknowledgement of each learner's individual story and needs. We believe in encouraging students to tap into their own journeys of self-exploration, which leads to active participation in the learning process.

Building strong relationships with our students is the essential first step. To accomplish this, we've established a robust advisory system connecting each student with a team of dedicated mentors/ coaches. With their advisors, students explore and develop their goals, and work to address any social, emotional, or mental needs. These factors are then used to craft personal learning plans which shape their educational interests and needs.

We know that HSRA students each have different strengths, needs, and interests, so maximizing opportunity and choice are imperative in fostering students' buy-in and success. Therefore, at HSRA, school is more than just a traditional classroom experience. Students choose from experiential opportunities and competency-based learning, participate in individualized projects and guided study, and take project/lab-based classes paired with online blended learning, while also taking full advantage of our state-of-the-art music production studios, graphic design and photography labs. Our flexible system of student-centered choice helps each student find the path that works for them, and not have to conform to a 'one-size' fits all model.

HSRA focuses on developing learners' abilities to establish a sense of meaning and purpose; to sharpen their talents and abilities to attain self-efficacy; and to create a better space and place where they can prosper, grow, create, and become change agents in their communities.

> This is the chicken and egg conundrum…it's hard to build will for something the public doesn't understand…
>
> — Jim

and many have shown promising educational results. These schools are in both urban and rural areas and serve a range of student populations."[24]

Mehta and Fine are more cautious in their outlook. After a review of schools recognized for their work in deeper learning, which incorporates many student-centered approaches, the authors conclude that "the field is not as far along as some accounts might suggest."[25] Despite these findings, Mehta and Fine go on to identify several productive strategies that can help to accelerate deeper learning approaches. But the message is clear: much work needs to be done to replicate these strategies more broadly.

We agree. In our view, currently there is no massive public "pull" for student-centered strategies. In fact, Mehta and Fine suggest that qualities such as "critical thinking, grappling with nuance and complexity, questioning authority, and embracing intellectual questions – are not ones that are widely embraced by the American people."[26]

Therefore, an essential step is to promote greater understanding of and demand for student-centered learning, and to identify, adopt and deploy strategies that will accelerate utilization of these concepts.

Part of that overall strategy must involve engaging policy makers and stakeholders in concerted efforts to promote student-centered learning, identifying needed changes in current policies, and promoting broader understanding of the benefits that can accrue to students, teachers, families, and communities when student-centered approaches are adopted. In the next section, we identify several steps that can help to move us in that direction.

IV. Recommendations for Policy Makers and Thought Leaders

In this section we offer thoughts about how the benefits of student-centered practice can be extended to substantially more young people. As discussed in the previous section, we believe that the fundamental challenge to such an expansion is the lack of public awareness about the power which student-centered learning can have for all students, including those in our lowest-performing schools.

In our Hartford discussions, we identified several steps which could help to increase the visibility and reach of student-centered practice. These include:

– Nurturing and supporting innovative teachers and administrators who are actively promoting student-centered practice in their schools even in today's standardized test-driven environment

– Helping people re-imagine and repurpose educational tools and techniques being used today—e.g. technology, performance-based assessment, and blended learning strategies

– Engaging a variety of interested parties and building a shared agenda – e.g. community leaders and employers who understand that students need more than traditional academic skills to succeed; and foundations, which are eager to influence and incent educational strategies with the potential to close achievement gaps and

– Building public demand for nurturing education as a public good defined by personalization – e.g. by using various forms of communication to bring attention to front-runner schools and programs which can serve as role models and evidence proofs for this work.

Organization Summary

Founded in 1975, Our Piece of the Pie (OPP) is grounded in the belief that all youth can succeed when provided with access and opportunity. To initiate their paths to success, each young person works with a mentor to set goals and identify a blend of services in youth development, workforce readiness, academics, and external resources.

Recognizing the growing dropout crisis, in 2009 we took our successful community-based, relationship-centered model and developed a school model for struggling, over-age/under-credited students. We now operate three high schools in Connecticut: OPPortunity Academy – Hartford; Learning Academy at Bloomfield; and Path Academy Windham. Today, more than 300 former or near-dropouts attend an OPP school each year, and more than 200 have graduated with their high school diplomas.

Student-Centered Learning in Action

OPP's school model departs from the traditional school experience by employing innovative academic and holistic approaches to re-engage struggling students and help them prepare for the future.

Our school model incorporates academically rigorous and innovative education strategies designed to re-engage students in their own education and future. These strategies build student motivation, and include a variety of approaches, including computer- and teacher-led blended learning, project-based learning to combine skills from multiple courses, and mastery-based progression to award credits based on demonstration of competence. Together, these strategies encourage students to take responsibility for their education, as well as the pace at which they earn credits and graduate.

Wraparound supports are often seen as critical elements in dropout prevention and recovery schools, helping students to remain focused on academic success and take advantage of student-centered learning components. The OPP model incorporates a variety of these supports for our students, who are often justice-involved, pregnant or parenting, working, battling mental illness, or facing any number of additional risk factors. For example, school-based Youth Development Specialists are utilized to address students' personal barriers by making referrals to school- and community-wide services, performing attendance outreach, and enhancing personal development and parental engagement. They also help students to establish and measure progress towards their own learning goals.

OPP's school model also incorporates preparation for life beyond high school. This includes postsecondary preparation, e.g. college tours, major exploration, application/aid assistance, as well as workforce readiness, such as career interest inventory, career competency development, internship/job placements and support. Together, these components ensure that youth are prepared to succeed in college, career, and community.

These innovative student-centered education components, anchored by holistic supports to help students set and achieve goals in high school and beyond, are making a difference for our students.

We hope that this issue brief serves to advance these points, and pledge our collective efforts to continue to pursue them.

In addition, we urge public officials and other policy influencers to help initiate and lead discussions about how we can provoke and stimulate a fundamental educational regeneration in our country that enhances the well-being of all students. Understanding and appreciating the urgency of this moment, we believe that many Americans are ready to engage in these conversations.

To that end, we offer the following recommendations for policy-makers.

Federal Level

We call on Congressional education committees, as well as others with interests in and jurisdiction over education-related issues, to use oversight hearings on implementation of the recently-enacted Every Student Succeeds Act to examine how states and local school districts are beginning to organize themselves to develop and adopt new standards, assessments and accountability systems, and to design innovative approaches to intervene in low-performing schools. Specifically, we recommend that you utilize hearings and other information-gathering opportunities, such as town hall meetings and forums with your constituents, to address the following topics:

- **How states and local districts are seizing the opportunity to innovate and regenerate practice through the adoption of evidence-based, competency-based, and student-centered approaches that raise the bar for all students.** Hearings and discussions—along the lines of the HELP Committee working sessions prior to ESSA mark-up—could serve to energize state and local education officials who are committed to change, and also to nudge those who are less inclined to be bold.

- **How each of the seven states selected to pilot innovative, performance-based assessments are organizing their efforts,** and how their findings can be documented, shared, and replicated as early as is possible and feasible.

- **How states and local districts are building the capacity to take full advantage of the new authority provided through ESSA.** In particular, it will be important to understand how states and less wealthy school districts are working together to build systems of standards, assessments, and accountability that are meeting the needs of all students.

- **How strategic investments at the federal and state levels can spur innovation,** and how all levels of government can work together to accelerate the adoption of evidence-based, student-centered practice.

State Level[27]

Because education is a state responsibility, governors, chief state school officers, state boards of education, and state legislatures will have even greater roles to play as a result of ESSA's enactment. We urge state-level officials who manage and oversee education to use your offices and authority to take advantage of these expanded responsibilities to promote true educational change. In particular, student-centered strategies should be considered as integral components of reform efforts aimed at re-engaging off-track and out-of-school students, especially those who are unlikely to succeed in traditional schools (e.g. those who are over-age with few credits toward graduation). Similarly, student-centered approaches can be effective in addressing the needs of students in low-performing schools (i.e. those in the bottom 5%, those with low graduation rates, and those where subgroups are struggling).

Specifically, we urge you to consider a series of bold actions which we believe can promote improved outcomes for all students.

- **Redefine the Use of Time in Classrooms and Schools.** In a world of anytime/anywhere learning, the concepts of time-bound class periods, school days, terms, and other aspects of the school calendar are clearly revealed as relics of 19th century agrarian and industrialized economies. Surely at this point in the 21st century we can agree that students' progression and advancement should be determined by demonstrated mastery, not by how

resources

A State Policy Framework for Scaling Personalized Learning
KnowledgeWorks

Student-Centered Schools: Policies for Closing the Opportunity Gap (2014)
Stanford Center for Opportunity Policy in Education

Innovate to Educate: System (Re)Design for Personalized Learning. A Report from the 2010 Symposium
Wolf, for the Software and Information Industry Association

---

who we are

SIATech
Arkansas, California, and Florida

www.SIATech.org

Organization Summary

Established in 1998, SIATech is a network of dropout recovery public high school that serves more than 3,500 students at campuses in Arkansas, California and Florida. SIATech re-engages reluctant or disconnected students through an innovative curriculum of student-centered learning that integrates technology with academics and provides the opportunity to earn an accredited public high school diploma. SIATech provides a rigorous core academic program coupled with an electives program emphasizing workplace and college readiness and vocational certification for a 21st century workforce.

Student-Centered Learning in Action

The majority of SIATech students are 16–24 year-olds who have dropped out of high school and have re-engaged themselves in education. Many are working to support themselves and their families. For these re-engaged youth who face multiple barriers, student-centered learning is particularly important, as it provides anytime, anyplace, any pace accessibility to curriculum.

The use of a competency-based, high-tech, motivational curriculum provides confidence for students to build skills and achieve their goals. At the core of this process is the Individualized Learning Plan for all students, which guides their paths to high school credentials and life after graduation.

With their Individualized Learning Plan in place, classroom and blended learning opportunities in a classroom or at home allow students to develop technological, problem-solving, and inquiry skills. In addition, as a competency-based system rather than time-in-seat, we ensure that students master concepts that scaffold to the next level of coursework and contribute to student engagement, persistence, and success in academics and future employment. This, in turn, allows for accelerated learning as students move through the curriculum. This approach has served SIATech's schools well, with over 15,000 graduates and students gaining an average of 2.5 grade levels in math and 1.5 grade levels in reading after one year in the school.

SIATech utilizes a robust individual student growth model to measure the success of each student, which begins with an assessment upon enrollment and at multiple times throughout each year by using short-cycle testing periods. Students' expected learning gains are calculated and used to measure student and aggregate school-wide growth. Teachers and students use assessment information to track learning and focus in on strategies and behaviors that will support goal achievement. This is all done in service to students' individual progress, as they move forward when skills and concepts have been mastered.

SIATech's student-centered model recognizes each student as an individual with different learning needs. SIATech's approach allows teachers freedom to use meta-cognitive approaches and differentiated instructional practices.

Our new addition of Career Pathways to high growth sector careers will provide internships and apprenticeships for our students through new partnerships with community businesses.

long they sit in a classroom over the course of a year. Therefore, we urge you to build your new accountability systems based on the documented mastery of content, and to award "credit" based on demonstrated proficiency.

- **Augment—or Replace—Narrow Academic Standards with Broader Measures of Student Success.** As we have argued, the relentless focus on a narrow band of academic outcomes does not in and of itself prepare any of our students for the increasingly complex world in which they will actually live. We can leverage the flexibility inherent in ESSA to do better. We urge states to adopt broader measures of student success into accountability systems, and to engage communities in rethinking what we want graduates to know and be able to do. For example, states should consider incorporating problem-solving, critical thinking, independent learning, motivation, and application of knowledge, among other so-called 21st century skills, which students will need to survive and thrive in the years to come.

- **Take More Expansive Approaches to Assessments** Broader standards should lead to broader notions of assessment, including performance and demonstration of mastery along a continuum of understanding. To this end, states should work with local districts to develop coordinated and integrated approaches to assessment and accountability, including state-level systems which would gauge deep mastery of academic content and other essential knowledge, with frequent opportunities to demonstrate mastery; and more personalized approaches at the local level which gauge students' capacities to investigate subjects, collaborate with their peers, present their results, and defend their ideas.

- **Prepare Teachers for Success in Student-Centered Classrooms.** Understanding that the educational regeneration we are seeking will require systems and supports unavailable to many of today's teachers, we urge states to adopt policies and to provide adequate funding for professional development and training to support mastery of classroom techniques, relevant technology, and other non-traditional approaches embodied in student-centered pedagogy, perhaps including the use of networked learning opportunities which directly demonstrate the value of these techniques. Furthermore, new policies will be needed to ensure

that teacher preparation, induction, evaluation, and advancement are all aligned in ways that promote expanded and enhanced student learning.

- **Spur Innovation through Investments in Research and Development.** Time is a scarce commodity in public education. The demands on teachers and administrators are accelerating, and the time and money to reflect on strategies to improve practice are increasingly rare. To address these unfortunately realities, states should invest money in ways that enable local school officials, parents, and communities to work and plan together to build evidence-based systems that meet the needs of their students.

- **Fund Schools Based on Students, and on Student Success.** Although there are often set-asides and formula adjustments, state school funding is typically based on an "average" ADA/FTE. But as we have demonstrated, there is no such thing as an average student. Therefore, state funding mechanisms should more adequately recognize the differing needs of learners. Furthermore, there is often little relationship between school funding and student outcomes. We need new funding policies that focus funding more explicitly on student needs, perhaps including "incrementalizing" ADA/FTE units into customizable units, and which include accountability systems that reward innovation in increasing student mastery of an expanded set of standards and expectations.

Local Level

Of course, innovations in the use of time, standards and assessments, and professional development also apply at the local level, since that is where the processes of renewal must take hold and flourish. In short, state action to adopt innovative approaches must be followed by local efforts to take maximum advantage of such opportunities.

Furthermore, local districts already have significant authority to create learning environments that promote active learning focused on students' needs and strengths. In fact, as CPRE points out,[28] many barriers often

California Independent Study

California

http://www.cde.ca.gov/sp/eo/is/

Organization Summary
   California's independent study system is uniquely positioned to promote personalized learning. Authorized by 1976 legislation that provided non-classroom based options for child actors, athletes, etc., California's system introduced the idea of publicly funded learning opportunities outside the traditional classroom. The advent in the 1990s of both the internet and charter school legislation dramatically expanded the reach and entrepreneurial drive behind independent study.
   Today, over 300 independent study schools and programs across California are serving hundreds of

thousands of students from preschool to adult education. Independent study options are available in nearly every corner of the state and serve populations equally diverse.
   Our independent study options include a wide variety of educational settings including full-time online schools, blended or hybrid schools, home school programs, and combinations thereof. Some schools labeled as independent study offer full-time site-based instruction to a proportion of their students while simultaneously offering full-time online or independent home-study option to others.

Student-Centered Learning in Action
   At its core, California's Independent Study system's flexibility of funding, timing, and location allows for and even promotes programming geared to the individual student. In particular, California funds schools using an Average Daily Attendance. In the context of independent study schools, this is not documented via seat time, but rather by teachers "signing off" on student work being adequately completed.
   Our experience would suggest that the decoupling of funding from traditional seat-time requirements opens the door for individualized learning. In that vein, independent study schools match their

students to programming that best suits their needs – perhaps heavy on home study for kids showing an aptitude for working independently, while placing a different student on campus in a three-day a week setting if that's the right fit for the student.
   These options can benefit a range of students including those who have fallen behind on their studies, are highly gifted and not challenged in regular classrooms, are at risk of dropping out, or face particular challenges like health issues or the need to have a job during the day.
   Independent study requirements include a voluntary, written master agreement for each individual student,

comprised of information about learning objectives, methods of study, resources available, assignment information, and the necessary signatures committing the agreement. Independent study programs must be equivalent in both quantity and quality to classroom-based instruction. While these independent study programs are required to follow the district-adopted curriculum and graduation requirements, under the California Education Code they are allowed to use these varied and innovative instructional strategies to do so.

cited as reasons why student-centered and other reform strategies can't be adopted are much more perceptions, than realities.

A good example of strong, local action can be found in work of Fulton County Schools (GA), whose Personalized Learning Road Map[29] identifies a vision of student-centered learning:

- Across the district, students take a proactive role in designing their current learning and planning for future learning

- Learning is co-planned with students, parents, and teachers

- Learning plans are informed by what the student has and has not mastered and the individual learning patterns and affinities of each student

- Students participate in the evaluation of their learning and in deciding how to demonstrate their learning

- There is student choice in curricular options, resources, and learning materials, and varied learning environments

- By using personalized learning plans, portfolios, rubrics, online learning management and support tools, collaborative learning, and other strategies, teachers help students manage their own educational experience

- Learning paths are based on career and college readiness standards as well as specific skills such as collaboration, problem solving, and critical thinking

- Student-centered learning actively utilizes direct instruction on a just-in-time basis

Of course, there are *other extremely important stakeholders and thought leaders* who can also help to promote educational renewal. For example:

who we are

Reaching At Promise Students Association (RAPSA)

nationwide

www.rapsa.org

RAPSA
REACHING AT-PROMISE STUDENTS® ASSOCIATION

The Reaching At Promise Students Association (RAPSA) is a professional development organization focused on dropout recovery and prevention. RAPSA members and participants believe that sharing best practices, implementing accountability policies relevant to the lives of risk immersed students, personalizing the learning experience to foster re-engagement, and developing accurate data about the numbers and causes of students dropping out will move students from being at risk of tragedy to "at promise" of success. Expanding the use of best practices and meaningful accountability measures will result in more schools focusing on dropout recovery and prevention. RAPSA

is built on the premise that improving practices and policies will result in a significant decrease in the dropout rate.

RAPSA's connection with education practitioners is the missing link for serving out of school youth. RAPSA supports education leaders who are working in high poverty neighborhoods across the country to solve the dropout crisis. Since 2005, RAPSA has worked to build a platform for professional development and collaboration among these educators. The mission of RAPSA is to support educators by keeping them well informed with cutting edge practices and proven teaching and intervention strategies. This "Seizing the Moment" policy brief is part of that effort.

- **Employers.** Employers have an immense stake in strengthening educational opportunity, since it is clear from survey after survey that they believe that far too many young people are not ready to succeed in workplaces.[30] As we have noted, student-centered learning places strong emphasis on a wide variety of skills which, among many other things, help young people to understand the transactional nature of the workplace—communicating effectively, working in groups, problem-solving, following directions, showing initiative, and the like.

  As leaders in their communities, employers can speak with authority – at business organizations, school boards, and other public events – about the importance of students' cultivating a broad range of skills, in addition to mastering academics.

  Employers, either individually or in partnership with others, can also support public campaigns aimed at elevating the importance of educational renewal. In the last three years we have seen the proliferation of guidebooks and tool-kits documenting the value of hiring unenrolled and unemployed young adults, often referred to as Opportunity Youth.[31] These efforts are striking examples of how business leaders can rally around an important cause. We urge our nation's employers to engage in the fight to expand student-centered learning with a similar vigor.

- **Foundations.** National and regional foundations have played and will continue to play essential roles in elevating the importance and highlighting the value of student-centered learning and similar approaches, including support for this policy brief and dozens of other publications. The Nellie Mae Education Foundation and the William and Flora Hewlett Foundation, among others, have contributed immeasurably to the development and growth of student-centered and related strategies, by piloting innovative approaches, underwriting research studies, documenting effective practices, and compiling examples of supportive policies.

  We deeply appreciate these efforts, and urge the philanthropic community to expand its support aimed at both spreading and scaling student-centered approaches. In addition to maintaining current investments, we hope that new support can be provided to front-runner sites where documented successes are being achieved to enable them to deepen their efforts and to share their successes. We also believe that concerted campaigns aimed at building public will would be extremely valuable, perhaps along the lines of the Ad Council's Boost Up initiative, a former campaign aimed at stemming the high school dropout crisis, and Grads of Life,[32] which highlights the benefits to employers of hiring older youth and young adults.

- **Community Leaders.** And, of course, community leaders can play pivotal roles by understanding and communicating the opportunities presented through student-centered learning not only for improved academic achievement, but also for active engagement by parents, residents, businesses and other community members. As noted earlier, strong community engagement can galvanize support for educational renewal, and also open up new opportunities for students to learn in settings outside their classrooms.

resources

Tool-Kit for Employers: Connecting Youth and Business
Released by Gap Inc. in 2012 in conjunction with the report of the White House Council for Community Solutions.

100,000 Opportunities
A Starbucks initiative launched in 2015.

Are They Really Ready to Work?
Produced in 2006 by the Conference Board, The Partnership for Working Families, the Partnership for 21st Century Skills, Corporate Voices for Working Families, and the Society for Human Resources Management.
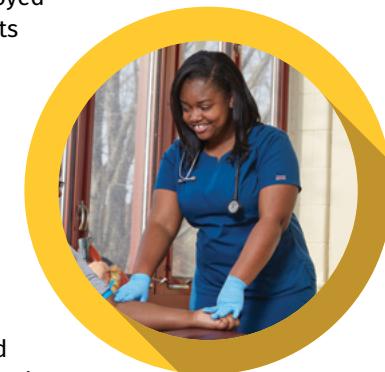
V. Conclusion

> This is extremely hard work...but we don't want to be pulled back by the lack of belief... or operate from our despair...we need to think differently.
>
> — Nick

There is no blinking at the challenges we face in realizing the vision of student-centered learning described in this brief. Achieving it will require concerted and energetic efforts by leaders at all levels of government, and by all members of the community. It will be very hard work, indeed.

Even so, we choose to be optimistic. There are schools all across this country where students and teachers are engaged in learning that is exciting, creative, and passionate. These are places where all students, regardless of the social, economic, or geographic circumstance, have the potential to succeed; and where all teachers can hone their skills and deploy their talents in ways that can help them realize their deepest purpose—the education of children.

Therefore, we won't despair at the difficulties. Rather, we will focus on the possibility and the potential of student-centered learning to give our students —and all the rest of us—the best chance to live lives of active and productive citizenship in the years to come.

End Notes

1   http://www.nmefoundation.org/our-vision.

2   Patrick, Susan, Kathryn Kennedy, and Allison Powell. *Mean What You Say: Defining and Integrating Personalized, Blended and Competency Education.* International Association for K-12 Online Learning, 2013.

3   Hattie, John. *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.* New York: Routledge, 2008.

4   http://www.hewlett.org/programs/education/deeper-learning.

5   The Myth of Average: Todd Rose at TEDxSonomaCounty. Available at: http://tedxtalks.ted.com/video/The-Myth-of-Average-Todd-Rose-a.

6   "Using Digital Media to Design Student-Centered Curricula," in *Anytime Anywhere: Student-Centered Learning for Schools and Teachers.* ed. Wolfe, Rebecca E., Adria Steinberg, and Nancy Hoffman, Cambridge: Harvard Education Press, 2013. See also, Hinton, Fischer and Glennon, in "Applying the Science of How We Learn" (ibid.). Further, Jo Boaler and Carol Dweck have both written extensively about the importance of a "growth mindset" in promoting and enhancing learning outcomes.

7   *Centered on Results:* Assessing the Impact of Student-Centered Learning. Quincy, MA: The Nellie Mae Education Foundation, 2015.

8   Specifically, Friedlaender et al.'s analysis of four urban high schools in California, discussed in *Student-Centered Schools: Closing the Opportunity Gap.*

9   See *inevitable—Mass Customizable Learning: Learning in the Age of Empowerment:* http://masscustomizedlearning.com/.

10 See also Jal Mehta and Sarah Fine in *The Why, What, Where and How of Deeper Learning in American Secondary Schools,* 2015.

11 *The Connected Classroom: Understanding the Landscape of Technology Supports for Student-Centered Learning.* The Nellie Mae Education Foundation and Parthenon-EY, 2015.

12 Hattie, John. *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.* New York: Routledge, 2008.

13 Walters, Kirk, et al. *An Up-Close Look at Student-Centered Math.* Quincy, MA: American Institutes for Research and the Nellie Mae Education Foundation, 2014.

14 *Early Progress: Interim Research on Personalized Learning.* Bill and Melinda Gates Foundation, 2014.

15 "Prioritizing Motivation and Engagement," in *Anytime Anywhere: Student-Centered Learning for Schools and Teachers,* ed. Wolfe, et al.

16 See Mehta and Fine in *The Why, What, Where and How of Deeper Learning in American Secondary Schools* as well as Vander Ark and Schneider in *Deeper Learning for Every Student Every Day*, Hewett Foundation, 2014.

17 LaBianca, Frank et al. *Blended Instruction: Measuring the impact of technology-enhanced, student-centered learning on the academic engagement, skills acquisition, and achievement of underserved students.* Quincy, MA: The Nellie Mae Education Foundation, 2015.

18 *Centered on Results: Assessing the Impact of Student-Centered Learning.*

19 LaBianca. *Blended Instruction.*

20 "Making Assessment Student-Centered," in *Anytime Anywhere: Student-Centered Learning for Schools and Teachers,* ed. Wolfe et al.

21 LaBianca. *Blended Instruction.*

22 Wolfe, Steinberg and Hoffman, *Anytime Anywhere: Student-Centered Learning for Schools and Teachers.*

23 Sturgis, Chris. *Implementing Competency Education in K-12 Schools,* The International Association for K-12 Online Learning and CompetencyWorks, 2015, 2015.

24 *A Time for Deeper Learning: Preparing Students for a Changing World.* Washington, D.C.: Alliance for Excellent Education, 2011.

25 Mehta and Fine. *The Why, What, Where and How of Deeper Learning in American Secondary Schools.*

26 Mehta and Fine. *The Why, What, Where and How of Deeper Learning in American Secondary Schools.*

27 For more detailed discussions on supportive policy changes, see KnowledgeWorks' *A State Policy Framework for Scaling Personalized Learning* (2015); Stanford Center for Opportunity Policy in Education's *Student-Centered Schools: Policies for Closing the Opportunity Gap* (2014); and Wolf's *Innovate to Educate: System (Re)Design for Personalized Learning. A Report from the 2010 Symposium,* for the Software and Information Industry Association.

28 Miller, Lawrence, J. and Jane S. Lee. *Policy Barriers to School Reform: What's Real and What's Imagined?* Seattle: Center for Reinventing Public Education, 2014.

29 Powerpoint available at www.fultonschools.org.

30 A good example is *Are They Really Ready to Work?* produced in 2006 by the Conference Board, The Partnership for Working Families, the Partnership for 21st Century Skills, Corporate Voices for Working Families, and the Society for Human Resources Management.

31 For example, Gap Inc.'s 2012 *Tool-Kit for Employers: Connecting Youth and Business,* released in conjunction with the report of the White House Council for Community Solutions; and Starbucks' *100,000 Opportunities* initiative, launched in 2015.

32 See www.gradsoflife.org.

Bibliography

A State Policy Framework for Scaling Personalized Learning. Cincinnati: KnowledgeWorks, 2015.

A Time for Deeper Learning: Preparing Students for a Changing World. Washington, D.C.: Alliance for Excellent Education, 2011.

Best Practices in Personalized Learning Environments (Grades 4-9). Alexandria, VA: Hanover Research, 2012.

Best Practices in Personalized Learning Implementation. Alexandria, VA: Hanover Research, 2014.

Casner-Lotto, Jill, and Linda Barrington. *Are They Really Ready to Work?* The Conference Board, The Partnership for Working Families, the Partnership for 21st Century Skills, Corporate Voices for Working Families, and the Society for Human Resources Management, 2006.

Centered on Results: Assessing the Impact of Student-Centered Learning. Quincy, MA: The Nellie Mae Education Foundation, 2015.

Darling-Hammond, Linda, Diane Friedlaender, and Jon Snyder. *Student-Centered Schools: Policies for Closing the Opportunity Gap.* Stanford: Stanford Center for Opportunity Policy in Education, 2014.

Friedlaender, Diane, et al. *Student-Centered Schools: Closing the Opportunity Gap.* Stanford: Stanford Center for Opportunity Policy in Education, 2014.

Grads of Life. www.gradsoflife.org.

Hattie, John. *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.* New York: Routledge, 2008.

LaBianca, Frank, et al. Blended Instruction: *Measuring the impact of technology-enhanced, student-centered learning on the academic engagement, skills acquisition, and achievement of underserved students.* Quincy, MA: The Nellie Mae Education Foundation, 2015.

Lewis-Charp, Heather and Tina Law. *Student-Centered Learning: City Arts and Technology High School.* Stanford: Stanford Center for Opportunity Policy in Education, 2014.

Mehta, Jal and Sarah Fine. *The Why, What, Where and How of Deeper Learning in American Secondary Schools.* Boston: Jobs for the Future, 2015.

Miller, Lawrence, J. and Jane S. Lee. *Policy Barriers to School Improvement: What's Real and What's Imagined?* Seattle: Center on Reinventing Public Education, 2014.

Patrick, Susan, Kathryn Kennedy, and Allison Powell. *Mean What You Say: Defining and Integrating Personalized, Blended and Competency Education.* International Association for K-12 Online Learning, 2013.

Personalized Learning 101. Wilmington, DE: Rodel Foundation of Delaware, 2014.

Personalized Learning Roadmap. PowerPoint presentation from Fulton County Schools, 2014, available at www.fultonschools.org.

RAND Corporation. *Early Progress: Interim Research on Personalized Learning.* Seattle: The Bill and Melinda Gates Foundation, 2014.

Sturgis, Chris. *Implementing Competency Education in K-12 Systems: Insights from Local Leaders.* The International Association for K-12 Online Learning and CompetencyWorks, 2015.

Tannenbaum, Courtney, Kirsten LeFloch, and Andrea Boyle. *Are Personalized Learning Environments the Next Wave of K-12 Education Reform?* Washington, D.C.: American Institutes for Research, 2013.

The Connected Classroom: Understanding the Landscape of Technology Supports for Student-Centered Learning. The Nellie Mae Education Foundation and Parthenon-EY, 2015.

Tool-Kit for Employers: Connecting Youth and Business. Gap Inc. 2012.

Vander Ark, Tom and Carri Schneider. *Deeper Learning for Every Student Every Day.* Seattle: Getting Smart, 2013.

Walters, Kirk, et al. *An Up-Close Look at Student-Centered Math.* Quincy, MA: American Institutes for Research and the Nellie Mae Education Foundation, 2014.

Wolf, Mary Ann. *Innovate to Educate: System (Re)Design for Personalized Learning. A Report from the 2010 Symposium.* Washington, D.C.: Association for Supervision and Curriculum Development, Chief State School Officers, and the Software and Information Industry Association, 2010.

Wolfe, Rebecca E., and Jennifer Davis Poon. *Educator Competencies for Personalized, Learner-Centered Teaching.* Boston: Jobs for the Future and Chief State School Officers, 2015.

Wolfe, Rebecca E., Adria Steinberg, and Nancy Hoffman, eds. *Anytime Anywhere: Student-Centered Learning for Schools and Teachers.* Cambridge: Harvard Education Press, 2013.