

The Innovation Imperative:

Creating a Policy Environment that Fosters Innovation in Public Education

“Educational innovation means discarding policies and practices that no longer serve students while creating opportunities for smart, entrepreneurial problem-solvers to help children learn.”

– Rick Hess, Leaders and Laggards:
A State-by-State Report Card on Educational Innovation



The Innovation Imperative

Today, public education in the United States is at a turning point. After years of incremental growth in student achievement, it is clear that the public schools are still, on the whole, not preparing the majority of students well for the demands of higher education and the workplace. Moreover, the challenges are growing as rising expectations coincide with significant changes in the makeup of the public schools. Today, roughly half of the public school students in the U.S. are low-income (as defined by eligibility for the free and reduced price lunch program), up from 38 percent just a decade ago. Meanwhile, the percentage of Hispanic students continues to rise. Nationally, more than 2 out of every 10 public school students is Hispanic.¹ In Texas, the figure is 5 out of 10, and by 2020, the proportion is expected to increase to nearly 7 out of 10.²

Amid these changes, funding for public education is increasingly constrained. As a result, public education is in the midst of a major productivity crisis: how to get much better results – higher levels of student achievement, eradication of achievement gaps, and stronger student engagement – with the same or fewer resources.

From Houston A+ Challenge’s perspective, there are two major paths to addressing this crisis. The first is to keep improving existing policies, expanding the use of best practices, and fine-tuning what works within the existing “factory model” delivery system. We call this the “do it better” approach. In a recent white paper and policy briefs, Houston A+ Challenge provides policy recommendations for state, district, and school leaders committed to the “do it better” path. We believe that progress can be made along this path by pursuing these recommendations, but that this path will likely never be enough to prepare all students for post-secondary success because it is based on an outdated and highly bureaucratic delivery model.

The alternative is the “do it differently” path: pursuing innovation – or more specifically, creating the conditions for bold new ideas and delivery models. Here, we define innovation as a novel approach *that yields better results and can be taken to scale*. (We gratefully acknowledge Bellwether Education Partners for this useful definition.) In advocating innovation, we do not mean simply inserting new programs here and there into the existing system. That would be little better than adhering to the status quo.

As researcher Rick Hess has written in his book *Education Unbound*: “If we are to deliver transformative improvement ... we must re-imagine the system itself.”³

Houston A+ Challenge believes that the future of public education in Texas and beyond may well depend to the extent to which state and district leaders are willing and able to create a policy and funding environment that allows high-quality innovations to be piloted and then scaled up to serve large numbers of students and schools. The ultimate goal is to have a diverse portfolio of high-quality school options that are responsive to the needs of students, families, and communities. In this brief, we contemplate areas that seem to be particularly ripe for innovation; revisit what some experts have been saying about barriers to innovation; and offer recommendations for creating a policy context that will enable high-quality innovations to take root and grow.

Fostering Innovation

There are many aspects of teaching and learning that are ripe for innovation, and all of them center on the core relationship between student and teacher. Prime examples:

- Who teaches students, and the nature of their job⁴ (learning coach? facilitator? full time? part time?)
- How teachers are hired, trained, and deployed
- What they teach (content/curriculum)
- How many students they teach (class sizes and instructional groupings)
- How they teach (types of activities – active vs. passive?)
- How technology is used
- When they teach
- How much time is spent on education, and how that time is configured (i.e., allocated to various activities)
- Where teachers teach (in school? online? in the community?)
- What work students do, and where they do it
- How learning and mastery are assessed

Everyone is familiar with the traditional model of American education, because it has remained remarkably impervious to change over time: one teacher in a room with a fixed number of students, proceeding for the most part through a fixed curriculum over a fixed number of hours in a day

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and a fixed number of days in the school year. As one observer has commented, “The current system is built on the assumption that time is the constant and quality is the variable, and that grades, classes, and teachers assigned to classes is the only way schools can be organized. This assumption is no longer valid, and it has not been for quite some time.”⁵

To create new, better models of educating students, we need not just one different approach, but a multiplicity of approaches. Rather than searching for the next “silver bullet” solution for transforming schools, we need to create a new infrastructure that encourages smart, talented, motivated individuals to find alternative paths to better teaching and learning. Rick Hess, author of *Education Unbound: The Promise and Practice of Greenfield Schooling*, calls this “greenfield schooling:”

“Greenfield” is a term investors, engineers, and builders use to refer to an area where there are unobstructed, wide-open opportunities to invent or build. It is not a term one hears often in K-12 education. This is no surprise. For all their virtues, our nation’s schools are not noted for embracing creative problem solvers. Educators labor in bureaucratic, rule-driven systems that can trace their practices to the legacy of early-twentieth-century factory management.

Rather than proposing a precise recipe for innovation, the focus of the greenfield approach is on removing barriers to innovation and creating the conditions for promising new ventures to take root. Innovation should not be pursued for its own sake, but because it promotes new efficiencies and/or addresses unmet needs.⁶ Moreover, it is crucial to assess the effectiveness of new providers and the extent to which the innovation is replicable. As Hess writes:



It is not enough for an entrepreneurial vision to simply be good. To be really worthwhile, there's an imperative that it be able to grow... [Moreover], significant innovations also need to be cost-effective. Entrepreneurs who succeed by adopting a "more, better" strategy can make a useful contribution, but their impact is inevitably limited...In short, all innovations and entrepreneurial ventures are not created equal. The most significant will be those that are cost-effective and can be replicated at scale. These solutions have the power to transform schooling.

Three types of providers are needed to create the "greenfields" necessary for educational change: people who design and operate schools and create new kinds of school models; people who recruit and deliver new talent; and "tool builders" – that is, those who provide products and services that enable people to be more effective in carrying out their work.

Removing Barriers

To create an environment in which entrepreneurs and new models can flourish, Hess and many others agree that a crucial first step is to **remove barriers to innovation**. In a recent report entitled *Pull and Push: Strengthening Demand for Innovation in Education*, Kim Smith and Julie Peterson of Bellwether Education Partners identify three major

types of barriers to innovation: policy barriers, information barriers, and cultural barriers.

Policy barriers include a wide variety of restrictive laws and rules, ranging from limiting charter school growth to regulating class sizes and human resources. Many such barriers are identified in the Broad Foundation's recent paper entitled *75 Examples of How Bureaucracy Stands in the Way of America's Students & Teachers*.⁷

According to Smith and Peterson, policy barriers also include inflexible funding mechanisms. As Paul Hill points out in a report entitled *For Next-Generation Educating, We Need Next-Generation Funding*:

The current education finance system doesn't actually fund schools and certainly doesn't fund students. Rather, it pays for districtwide programs and staff positions. Much of it is locked into personnel contracts and salary schedules...and bureaucratic routines. It's next to impossible to shift resources from established programs and flesh-and-blood workers into new uses like equipment, software, and remote instructional staffing. Yet to foster and maximize technology-based learning opportunities, we must find ways for public dollars to do just that – and to accompany kids to online providers chosen by their parents, teachers, or themselves...

Changing the funding framework this way may strike some as heresy, but if states and localities (and Uncle Sam) would combine all the money they now spend on K-12 education and divide it up by enrollment, with the same or a weighted fraction of the total assigned to each child, and then distribute these dollars to schools in the same way, they would sweep away the major obstacles to innovation and improvement in today's funding system.⁸



Beyond the policy barriers to innovation are informational and cultural barriers. Information barriers include limited data about the availability, usage, cost and quality of educational products and services, as well as critical feedback by end users for new tools which is necessary in the refinement of any new product or service. Cultural barriers include, for example, a fundamental mistrust of external solutions and a reluctance to measure return on investment or replace labor with technology.

It is worth noting that cultural barriers to innovation often serve to reinforce policy barriers, as they prevent decisionmakers from being willing to reexamine and challenge outdated assumptions that undergird existing policies. As Smith and Peterson point out: “Education buyers—mostly districts, but also states and schools—are, like most government agencies, extremely conservative... In many ways, they are appropriately cautious about inviting too many potentially disruptive programs into their midst, careful about making waves among teachers and parents. To be clear, there are some early adopters who eagerly push the market forward by piloting new programs and experimenting with new technologies, but the wider education field rarely rewards these innovators by adopting more effective innovations quickly and broadly, as other fields like technology, retail and manufacturing commonly do.”

To recap, Houston A+ Challenge believes that opening doors for innovative approaches that promote new efficiencies, address unmet needs, and are scalable is an exciting and promising path for transforming public education. Accordingly, we advocate creating a climate that is conducive for talented, visionary people to be able to

design innovative learning solutions for better educational outcomes for students, whether this means operating new schools or designing new tools.

The next logical question is, what policies and practices need to change in order to lift the most significant barriers to innovation? That is the focus of the following section.

Policy Recommendations to Foster Innovation

1. **Reform public education funding so that money follows students and funds what works.** Paul Hill (in *For Next-Generation Educating, We Need Next-Generation Funding*) provides specific recommendations for overhauling the education funding system. In particular, he proposes that:
 - money should follow the student (i.e., move as students move), empowering both schools and parents;
 - *education* (rather than institutions) should be funded;
 - unconventional forms of instruction should be paid for as readily as conventional schools;
 - funding should be withheld from ineffective programs; and
 - people with new ideas about instruction should be able to receive public funding if they can prove effectiveness – and if consumers want to “buy” what they have to offer.

Hill envisions a kind of “backpack” of funding that stays with the student: “A technology-friendly funding system would apply to all students no matter where they receive their education and no matter how many instructional providers serve them. To make this happen, some government entity – probably the state – would need to assemble all of the funds available from all sources, keep an account for every student, and faithfully allocate [resources] to whatever school or education program a student attends. Each student’s account would, in a sense, constitute a ‘backpack’ of funding that the student would carry with her to any eligible school or program in which she enrolled, wherever it might be located.”⁹

Ultimately, the success of this “funding backpack” approach hinges on parents being able to access, and act on, the information they need to make good choices about educational programs and services that address their children’s learning needs. Houston A+ Challenge therefore believes that parent education – in the types of educational options available as well as the quality of those options – will be a vital part of making such an approach work as intended. Transparency is also crucial; funding information should be easily accessible on the Internet so that parents and members of the public can hold schools accountable for how they spend taxpayer money and determine whether it is serving students’ best interests. Currently, parents and the public play an extremely limited role in deciding how public education funds are spent. This needs to change.

2. Lift the charter school cap and remove other legislative barriers that limit school choice, to pave the way for a “portfolio” approach.

While public school choice does not ensure success, it creates opportunities for creative problem solving and customized approaches to meeting student needs, by permitting experimentation and providing better alternatives for students and families. Thus, it is an essential proving ground for innovation.



Marguerite Roza has written persuasively about the power of the portfolio approach, which aims to advance full-blown school choice by creating more high-quality schools *regardless of provider*, giving schools autonomy over staff and funding, and holding all schools accountable for performance. Among the elements needed to implement a portfolio approach are:

- opening new schools based on the needs of students, parents, and communities (including charter schools);
- expanding school choice for all families;
- coordinating enrollment and school information for families across sectors;
- aggressively recruiting external new school providers and intentionally developing internal new school providers; and
- providing equity and access to charter and non-traditional schools for special education students and English Language Learners.¹⁰

Within the school choice realm, charter schools are widely considered to be incubators of innovation. With greater flexibility, they are better able to experiment with everything from the school calendar to the curriculum. One can imagine, for example, that in addition to “brick and mortar” charter schools, there may also be virtual charter schools.

Just as important as fostering the growth of charter school options is holding them accountable for outcomes. On the one hand, charter schools are accountable to parents choosing them. The long wait lists for high-performing charters demonstrate the importance of this form of accountability. There is also a second form of accountability, however, and that is to the taxpayers who are funding schools. In this second area, Texas has a very long way to go. Notably, the recent *Leaders and Laggards* report on education innovation in various states gave Texas’s charter school law a D.¹¹ Even if Texas fails to raise its charter cap, closing low-performing charters would open up room for high-quality charters to apply.

3. Give school districts the authority to adopt innovative staffing models. Though Texas lawmakers have given districts more control over staffing reductions and furloughs, and stopped forcing them to adhere to “last-in-first-out” requirements, districts need far more latitude in the area of staffing. One-size-fits-all rules governing class sizes and configurations ignore the opportunities afforded by technology as well as the variability in teacher quality. (For example, a highly effective teacher might be fine teaching a class of 25 students, while an ineffective teacher might struggle with a class of 16.) The core goal of policies pertaining to class size and instructional delivery should be to give districts maximum flexibility so that they can best leverage their effective teachers, such as using blended learning approaches and other forms of innovation.

To put it simply, the days of prescribing a sole teacher standing in front of a room lecturing a fixed number of students for a fixed number of minutes in lock-step fashion must end. As a recent study from Learning Point observed: “Teachers are worked harder than necessary and devote a smaller amount of time than appropriate to honing their clinical practice.”¹² Staffing models need to be overhauled and education needs to be “unbundled” so that the role and function of teachers is changed from disseminators of information to facilitators of learning.

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As one author recently wrote: “Transformative improvement requires stripping away conventional rules governing certification and licensure so that schools can use unconventional personnel in instructional roles, can extend the reach of effective teachers, and can tap instructional talent from far away.”¹³

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4. Eliminate obstacles that prevent schools and districts from personalizing and customizing educational delivery – for example, by expanding learning time and reorienting their delivery model to focus on student competencies rather than seat time and number of credits. Extended learning time is not a panacea, but research clearly shows that rethinking the school day or year can provide tremendous opportunities to support high-quality teaching and learning.¹⁴ There are many ways to extend learning time, but for the most part these can be divided into two categories: programs that add time (hours or days) to the regular school schedule using existing staff and facilities, and out-of-school programs that operate outside of the normal school day or year (e.g., after-school or summer school). Texas has no extended learning time policy; Massachusetts and Colorado are among the few states that do.

In addition to needing more freedom and support to expand learning time, districts need more flexibility around the use of time. In other words, state policy should give districts ample room to reorient their use of time, as well as staffing and other resources, to focus on student competencies rather than the number of credits or amount of seat time that students have accumulated. The state also, of course, plays a key role in helping districts and schools define and develop high-quality competencies and learning objectives. Growing numbers of states are working to overhaul their policies to shift districts’ focus to competencies – for example, requiring them to offer competency-based credits, competency-based alternative schools, and credit recovery; providing support mechanisms (e.g., technical assistance providers to help districts create competencies, train teachers, and establish information management systems); establishing quality-control mechanisms to ensure that higher expectations for

student learning are not compromised; and providing support and incentives for expanded learning options, such as after school programs and online courses, etc.

Texas should do the same. As an example, there are 15-year-olds who could successfully complete Algebra I, Geometry, and Algebra II in the course of one calendar year if the system provided this kind of flexibility. In a highly personalized and customized learning environment, yearly grade classifications will very likely become meaningless as the individual goals and learning pathways become increasingly varied. State policy should not just allow but foster this level of customization and personalization.

In a recent report entitled *Cracking the Code*, Susan Patrick and Chris Sturgis describe a far-reaching policy framework to promote innovation, including seat-time waivers and “credit flex” policies. Waivers are useful, the authors write, because they allow districts and schools to provide alternatives to “seat-time” restrictions while still remaining in compliance with state policy. Districts are often required to reapply for waivers every year, however, which is an administrative burden. Furthermore, seat-time waivers tend not to be highly conducive to innovation because school reporting typically remains the same. Patrick and Sturgis therefore urge states to create a seat-time waivers procedure that provides greater “innovation space.” They also highlight state policymakers’ growing interest in flexible credit policies, in response to the boom in online learning and the high demand for credit recovery. While advocating such policies, Patrick and Sturgis emphasize the importance of sound quality-control mechanisms so that districts implementing credit flexibility will not give short shrift to quality or academic standards. They also underscore the importance of the state providing strong training, technical assistance, pilot programs, and other supportive mechanisms so that districts will take full advantage of the policy.¹⁵

5. Provide incentives and support for schools and districts to harness the potential of technology to transform teaching, learning, and assessments.

Technology or “digital learning” has tremendous potential to facilitate the delivery of high-quality instruction to students. Among its greatest advantages is that it ends the “one-size-fits-all” approach to schooling and instead lends itself to “unbundling”—that is, enabling providers to serve children in customized ways from almost anywhere. As Rick Hess has summarized, “Digital learning makes it possible to deliver expertise over distances, permits instructors to specialize, allows schools to use staff in more targeted and cost-effective ways, and customizes the scope, sequence, and pacing of curriculum and instruction for particular children.”¹⁶

Growing number of schools and districts are seizing technology’s transformative potential. A recent *Wall Street Journal* article, for example, described remarkable changes underway in a school district in North Carolina. All textbooks, notes, learning materials and assignments are now computerized, so that teachers and parents can track students’ progress in real time. “If a student is struggling, their computer-learning program can be adjusted to meet their needs and get them back up to speed,” the reporter describes. “The best students no longer wait on slow students to catch up. Top students are constantly pushed to their limits by new curricular material on their laptops.” The new model has allowed the district to more effectively leverage their best teachers – and to contain costs.¹⁷



Technology provides tremendous opportunities to personalize education through online and blended learning, extended learning opportunities, modularizing courses, and more. To expand students' access to these kinds of opportunities, school and district information systems will need to be reorganized so that they support personalized learning plans for all students, and establish guidelines so that data for highly mobile students will be accessible wherever they go. At present, however, district data systems are typically far better suited to compliance reporting (i.e., for state and federal accountability requirements) than to informing teaching and learning, or tracking growth in students' competencies.

More than anything else, school leaders, teachers, parents, and students need access to meaningful data that allows them to track students' learning progress. Creating this kind of information infrastructure will require districts to integrate student information systems, learning management systems, and analytics. The state plays a role in ensuring that districts have such systems in place.

Finally, teacher education programs and school districts will need to revamp their efforts to prepare teachers to create their own learning support materials and assessments and to ensure that they are well equipped to harness the extraordinary potential of technology. This will be vital for educators all along the pipeline, from pre-service through veteran and everyone in-between.

6. Revamp the accountability system and implement strong quality control measures to ensure that parents as well as local and state leaders can monitor the effectiveness of various education providers. If communities take full advantage of the flexibility and customization inherent in innovation (particularly through technology), the resulting challenge is that there may no longer be one conventional "school" or even school district to hold accountable. Instead, students in a given building or geographic region may be taking courses from a variety of providers, each with varying approaches to technology, instruction, mastery, and so forth. Finding ways to monitor quality in this "brave new world" will be a significant challenge.

In a working paper on policies to advance digital learning, commissioned by the Thomas Fordham Foundation, Frederick Hess discusses three levers for accountability that, in combination, are likely to yield the most promising results. Input and process regulation, outcome-based accountability, and market-based quality control are familiar accountability levers that policymakers have used for decades in education. Hess applies these to the new digital frontier, saying: "*Input regulation* entails policymakers prescribing what entities must do to qualify as legitimate online providers. *Outcome-based accountability* relies on setting performance targets that providers must meet. And *market-based quality control* permits the universe of users to choose their preferred providers – and then trusts that market pressures will reward good providers and eventually shutter lousy ones." State policy makers will play a vital role in the development of input regulations and assessments for outcome-based accountability. Hess imagines a time in the near future, perhaps led by states that have adopted the Common Core standards, where economies of scale will help in the development of "in time" assessments that are far more sophisticated and competency-based. Flexibility for assessments for specific learning objectives will help transform teaching and learning as we know it today.



7. Provide funding to fuel promising innovations – and measure results.

Many states are participating in the federal innovation grant program, and Texas would be wise to consider creating its own innovation incentive fund. Though some may argue that the current budget environment precludes such activities, one can easily imagine the cost savings that could result from promising new models and programs – savings for the state, and for individual school districts – not to mention the powerful ideas that could be pursued. Louisiana provides a useful example for consideration. According to its website, the Louisiana Department of Education “functioned primarily as a regulatory agency, focused more on ensuring compliance of rules and regulations than on supporting schools and districts.” The Innovation Office is working to change this dynamic by working closely with districts “to ensure that the right policies and practices are in place to dramatically increase student achievement.” West Virginia has pursued a different approach to spurring innovation. Its Innovation Zone program “provides schools with the support and flexibility to collaboratively implement innovation to enhance student learning, which may currently be restrained by policy or code.”

If these policy changes are made, the education system as we know it will change from a bureaucracy that resists change and shuns alternative approaches to a much more flexible and responsive system that is designed to spur innovative ways to address children’s diverse learning needs. In this new era, the role of the state – and of school districts – would shift from being a centralized provider to being a hub of information about the needs of students and families, and about the market of providers. Neerav Kingsland, Chief Strategy Officer New Schools for New Orleans has referred to this change as moving from being a “reformer” to a “relinquisher” and holding providers accountable for results with students.¹⁸ The end result: ineffective providers (“lemons”) will be exposed and put out of business, and quality will rise to the top – and be scaled up.

Conclusions

Over the past three decades, Texas has undertaken a variety of ambitious reforms designed to improve the quality of public education. These efforts have yielded important gains, but the pace of progress has not been sufficient to keep pace with the challenges at hand. As a result, far too few students – particularly low-income students and minorities – get the kind of education they both need and deserve to prepare them for a productive, self-sufficient future. Furthermore, the costs of the current delivery model have been escalating at an unsustainable rate.

Innovation – in the form of new delivery models, the infusion of technology, alternative staffing configurations, different use of time, and more – has the potential to significantly change this trajectory. Today, there are many entrepreneurs with great ideas about how to educate all students more effectively (and efficiently) and prepare them for success in college and beyond. But countless barriers and challenges stand in their way, and as a result, their potential for transformative impact is being thwarted. Houston A+ Challenge urges Texas policymakers to roll up their sleeves to remove these obstacles so that innovators can bring the kinds of bold, transformative ideas forward that our students so desperately need. In tandem with this “greenfield” approach, we must commit to evaluating outcomes so that new programs and models that are demonstrating results can flourish and those that are not will end.

Just as every crisis is accompanied by new opportunities, so too does the current crisis in American public education present promising opportunities for change. We hope that Texas leaders will seize them, and soon.

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Attachment: Examples of Innovation

A multitude of promising innovations that are now occurring on a relatively small scale could flourish and grow if barriers to innovation in public education were addressed. A variety of examples are provided below. For additional examples and links to all of these resources, visit: www.houstonaplus.org/innovation.

- > **Classroom Window** is combining Consumer Reports-type expertise with crowdsourced knowledge (similar to Yelp) to report on innovations being used in different contexts, and data on teacher and principal satisfaction and student achievement.
- > **The Shared Learning Collaborative**, a multistate effort supported by the Bill & Melinda Gates Foundation and the Carnegie Corporation of New York, is piloting an open-source technology platform to integrate and store instructional performance data and provide a clearinghouse for teacher resources. Projects like this connect geographically dispersed buyers or users with similar needs.
- > **EdSurge**, a news site and information database on educational technology, provides investors and users with more information about available products and their efficacy.
- > **Microsoft's Pathfinder and Mentor Schools** provide members with access to educational experts and help them find, share, and scale best practices; form collaborative communities among people who are geographically dispersed; and use technology to improve their teaching and learning practices.
- > **Rocketship Education**, a network of high-performing, urban, college-preparatory K-5 charter schools, combines traditional classroom instruction with a learning lab that enables individualized instruction through online adaptive technology and tutors.
- > **iZone** (Innovation Zone) schools in New York City adopt strategies to promote personalized learning; some schools are redesigning their schools (budgets, staff, space, scheduling, instruction, technology) around students' needs, motivations, and strengths; others are focused on online and blended learning; etc.
- > **School of One** in New York City provides differentiated instruction using technology.
- > **Citizen Schools** taps adult workers to come into middle schools to extend learning time and expose students to diverse professional talents.
- > **Innovation Lab Network** is advancing personalized learning by creating flexible credit policies that credential student work done outside of school, redefining learning materials to include more than textbooks, and letting students demonstrate competency throughout the year rather than just the end of the school year.
- > **Tutoring and support**, e.g., Khan Academy, SmartThinking, and Tutor.com use technology to help with staff development and one-on-one help for students.
- > **Carpe Diem Schools**, a tuition-free Arizona public school system, is truly "seizing the day" and changing the ecology of education by leveraging technology to make education more relevant, efficient, and effective. Options include a physical campus and an online campus that uses strategically located Student Support Centers.

Endnotes

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- ⁴ Thinking broadly, one can imagine that in addition to the traditional role of "teacher," there may be increased demand for new roles such as "learning coach" or "instructional designer," particularly within learning blended learning contexts that involve expanded use of technology resources.
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To learn more about Houston A+ Challenge's work, visit www.houstonaplus.org.



Houston A+ Challenge's mission is to serve as a catalyst for change in the public schools that educate nine of every ten children in our region, teaming with principals and teachers in targeted schools to ensure that every student is prepared for post-secondary success.