

BPS Educational Vision

The world of today and tomorrow is vastly different from the world of yesterday for which our schools were designed and built. Today and tomorrow are propelled by innovation: smartphones, social media, artificial intelligence, robotics, nanotechnology, biotechnology, the internet of things, alternative energy, and forces we have not yet imagined will shape the lives of the next generation. Our schools, on the other hand, were created in and for an industrial economy, steady-state classrooms that produced a standardized workforce for manufacturing and service jobs. As the nation's first school district nurturing the talent for a city that defines the cutting edge of the Innovation Economy, Boston and BPS are uniquely positioned take the lead in redesigning schools to bridge the divide between past and future. We can lead the nation in developing next generation schools—by reimagining both the physical design of our spaces and transforming the vital learning that happens in these spaces.

The 10-year Educational and Facilities Master Plan provides the City of Boston and BPS a series of tremendous opportunities to envision, create and renovate learning spaces to support and challenge our students to see a world beyond their own and be a leader in it. Our current kindergarten students will be in 10th grade in 2027; while we cannot predict the next game changing technology or industry, we can create learning environments that launch all students into a successful future.

BPS Core Values

In consultation with our community, we have arrived at three core values to guide our reimagining efforts. These core values speak to who we are as a community, and they move us towards who we want to become. Bostonians value equity, we value coherence, and we value innovation.

Equity

Priority

To eliminate system bias and provide authentic learning opportunities for all students.

Goal

We will develop our future leaders into self-determined, independent learners who are able to pursue their aspirations. We will open the doors to the Innovation Economy for all our learners.

Context

Everything we choose to do, or not do, can widen or narrow opportunity and achievement gaps. While Boston is proud that we are one of the highest performing urban school districts in the country, and we continue to invest in education (\$>20K per child), there are consistent and persistent opportunity and achievement gaps that exist in access to advanced coursework and enrichment, as well as student achievement that cut across racial, socioeconomic, linguistic, and gender lines. There are also opportunity gaps in access to the exciting and lucrative jobs of Boston's Economy. BPS will make decisions--instructional, staffing, financial, etc.-- using an equity lens so that students who are most in need of support receive it.

Coherence

Priority

To focus BPS' educational model on teaching and learning, and build collaborative, caring, and efficient ways to deliver resources to students, families, teachers, and staff.

Goal

We will reduce inconsistencies and inequities in the way our schools and district are organized in order to create a system of care. We will make our operations and learning environments student-centered.

Context

Creating coherence is essential to improving delivery of instruction and services to students. It makes the system more manageable for families, educators, and administrators, and it makes the system itself more sustainable. There is currently a great deal of incoherence—redundancy and confusion—in our system. For example, BPS currently has over 20 different grade configurations. We have schools that are K0–2, K–5, K–6, K–8, 7–12, 9–12, and many more. Each time a learner moves from one school to another, there is a risk of relationships and learning paths being disrupted. Fewer transitions in a learner's educational career strengthens their learning pathway and development.

Innovation

Priority

To build a culture of change that generates new solutions at every level of BPS from classrooms to schools to the central office.

Goal

We will enable our students and employees to become leaders, advocates, entrepreneurs and innovators for Boston and the world. We will open the doors to the Innovation Economy for all our learners, youth and adult.

Context

For our system to become a learning-centered one that generates new solutions to local and larger problems, we must grow everyone's capacity to empathize, analyze and define, ideate, prototype, and test. We must grow the agency of every member of our system so they feel empowered to make the organization better by making it more focused on the needs of our students. We need to unlock the power of technology to bring coherence and equity to our system: by personalizing learning for adults and students so that routine tasks can become automated and creativity unleashed, by making data responsive to the needs of learners, by growing our communications and community-building capacity within and across schools, the central office, and the community. And we must design spaces that enable all these things to happen.

BPS Vision for Student Success

BPS is clear that every student must possess a special blend of academic and technical knowledge, life skills and personal qualities to excel in any number of colleges and universities, thrive in an ever-evolving economy and assume the reins of leadership in Boston and places beyond. As we look out toward the future, we believe that our academics and enrichment have to equip BPS students with:

- Learning and Innovation Skills: Creativity, Critical Thinking, Communication and Collaboration
- Information, Media and Technology Skills: Information Literacy, Media Literacy, ICT (Information, Communications and Technology) Literacy
- Life and Career Skills: Adaptability, Initiative, Social and Cross-Cultural Skills, Productivity, and Leadership

If BPS helps students build relevant knowledge, skill and qualities, then they will be:

- Career Ready
 - Fundamental to our work are the skills, knowledge, and capacity necessary for college and career. We must be clear about what capabilities future workers will need and design our system to develop these in our kids.
- Equity Oriented
 - Where do we learn about injustice? Where are the opportunity gaps? The actions of the adults, peers, and systems in our lives are read daily and studied more closely than any textbook. BPS has the ability to shape significant elements of our kids' early experiences, to bend these to speak better to the value of equity.

- Community Contributors
 - We don't just want to climb the ladder, but to reach back to pull others up too. Our communities are a reflection of ourselves, and our students are critical in shaping what these look like over time. Our schools are communities in themselves, and we practice daily what each student can bring to theirs.
- Full of Agency
 - We want kids to see themselves in potential futures and to believe in their ability to affect change. School can help them recognize the role and potential of the individual.

The successful BPS graduate is one who, six years after graduating high school, is gainfully employed in a middle-skills job and a productive, contributing citizen who believes in his or her ability to effect change.

BPS Vision for NextGeneration Learning

In order to ensure that we are graduating students who are career ready, equity oriented, prepared to contribute to their communities and full of agency, our approaches to instruction and learning have to be modernized. The ways that we educate students have changed very little over the last 125 years, but the world has changed dramatically. While we've seen significant advancements in science, technology and innovation, K-12 education has seen fewer advancements. For example, high school graduation requirements have remained largely similar over the last 100+ years.

1ST SECONDARY SCHOOL YEAR.	2ND SECONDARY SCHOOL YEAR.
Latin 5 p. English Literature, 3 p. } . . . 5 p. " Composition, 2 p. } German or French 4 p. Algebra 5 p. History 3 p. 22 p.	Latin 5 p. Greek 5 p. English Literature, 3 p. } . . . 5 p. " Composition, 2 p. } German 4 p. French 4 p. Algebra,* 2½ p. } . . . 5 p. Geometry, 2½ p. } Astronomy (12 weeks) 5 p. Botany or Zoölogy 5 p. History 3 p. 37½ p.
	* Option of book-keeping and commercial arithmetic.
3RD SECONDARY SCHOOL YEAR.	4TH SECONDARY SCHOOL YEAR.
Latin 5 p. Greek 4 p. English Literature, 3 p. } . . . 5 p. " Composition, 1 p. } Rhetoric, 1 p. } German 4 p. French 4 p. Algebra* 2½ p. Geometry 2½ p. Chemistry 5 p. History 3 p. 35 p.	Latin 5 p. Greek 4 p. English Literature, 3 p. } . . . 5 p. " Composition, 1 p. } " Grammar, 1 p. } German 4 p. French 4 p. Trigonometry, 2 p. ½ yr. } . . . 2 p. Higher Algebra, 2 p. ½ yr. } Physics 5 p. Anatomy, Physiology, and Hy- giene, ½ yr. 5 p. History 3 p. Geol. or Physiography, 3 p. ½ yr. } 3 p. Meteorology, 3 p. ½ yr. } 37½ p.
	* Option of book-keeping and commercial arithmetic.

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The table above shows a list of courses recommended by the Committee of Ten in 1894. The high school transcript of the future should communicate what students know and are able to do through measures of competency and micro-credentials.

Our students cannot afford to fall behind the times. In fact, the education that we provide in our schools has to anticipate the changes occurring in our communities, workplaces and across society. We have to integrate new ideas, tools and instructional methods into the learning routine if students are to be fully prepared to navigate, excel in and contribute to an ever-changing world. With this in mind, we are declaring that, in BPS:

NextGeneration Learning is rigorous and cognitively demanding.

“If we want students to develop the capacity to think, reason, and problem solve, then we need to start with high-level, cognitively complex tasks.”—Stein and Lane 1996

All Boston Public School’s students will be cognitively and socio-emotionally engaged in schools. They have to be prepared to meet tomorrow’s opportunities and challenges. Cognitive demand refers to the kind and level of thinking required of students in order to successfully engage with and solve the task. When school work is rigorous and cognitively demanding, it is aligned to grade-level standards, requires higher order thinking skills, requires strategic thinking and in many cases, involves complex texts. Further, rigorous and cognitively demanding work is designed for students to demonstrate their mastery of knowledge and skills and to apply each to discipline-specific and interdisciplinary tasks. Lastly, in math, rigorous and cognitively demanding tasks balance conceptual knowledge, procedural knowledge, and application.

NextGeneration Learning is differentiated and promotes equitable and full access to rigorous curricula.

Students bring a variety of skills, needs and interests to learning. Therefore, there should be not a one-size-fits-all approach to instructional goals, methods, materials, and assessments that work for everyone. Flexible

approaches that meet the needs of individual students are critical. For example, Universal Design for Learning (UDL) is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn. We will achieve greater equity by not just addressing underachievement but by recognizing the assets and the diversity that all students bring to bear in the learning process.

In order for learning to be effectively differentiated, teachers have to be committed to knowing their students as learners and affirming their cultural and linguistic backgrounds. They must customize lesson plans, pacing and interventions based on what they know about students. Lastly, teachers will need to provide multiple access points to lessons and information, a variety of means for students to process new information, and many avenues through which students can demonstrate what they’ve learned.

NextGeneration Learning is “whole learner” focused, intent on nurturing young people who are intellectually inquisitive, socially engaged and emotionally resilient.

Learning must encompass every aspect of the individual—academic, social, emotional, cultural and physical. Students need learning experiences that emphasize the skills of independence and resilience: communication, critical thinking, teamwork, financial literacy, conflict resolution, and empathy.

NextGeneration Learning is cross-disciplinary.

The world we live in does not silo information in the ways that our traditional educational process does. In the modern workplace, information is contextualized and integrated. Our teaching and learning will mirror this cross-disciplinary reality, seeking opportunities to bring together multiple subject areas in applied settings.

NextGeneration Learning is multi-modal, multi-channel and technology-enabled.

The work of the future will require individuals to be comfortable toggling between modes, receiving, synthesizing, and communicating information continuously. This will occur in a range of contexts, with information access, learning, and communication taking place in traditional physical forms, digital spaces, and face-to-face interactions.

NextGeneration Learning demands collaboration among all school community members (e.g., student-teacher, student-student, teacher-teacher, teacher-parent, etc.).

Today, too much teaching and learning is done in isolation. Our work environments, however, expect teams to work together to tackle problems and to generate new solutions. We will develop this capacity in our students by practicing collaborative and contextual methods in our teaching and learning.

*These NextGeneration Learning elements reflect and activate BPS's core values—promoting educational **equity**, creating greater system logic or **coherence** across BPS and encouraging **innovation** to accelerate needed change and transformation.*

NextGeneration Learning is expansive and is inclusive of a wide variety of learning opportunities beyond school classrooms.

Meaningful connections that extend beyond the classroom help our students build future pathways to success. Learning in and out of the classroom challenges students to develop as critical and strategic thinkers: putting what they learn in context, and helping them make connections. Partnerships with a rich array of business, community, government, and higher education resources connect learning in the classroom to meaningful work and pathways to future success.

NextGeneration Learning promotes cultural and linguistic sustainability.

NextGeneration Learning uses the cultural knowledge, prior experience, frames of reference, and performance styles of diverse students to “make learning encounters more relevant and effective in promoting academic achievements” and to teach “to and through the strengths of students” (Gay, 2000). Such an approach is validating and affirming of the cultures, languages, and identities that students bring to BPS classrooms, viewing them as assets and keys to unlock powerful instruction rather than hindrances to learning. BPS will use Culturally and Linguistically Sustaining Practices to promote student agency and social justice, minimize social threats and maximize social connections and promotes a more positive working environment through cross-cultural exchange and understanding. If viewing this report in PDF format, please visit the following link for more information:

[Dr. Chang's personal experience on these issues illustrates Embracing Diversity](#)

BPS Vision for NextGeneration Learning Spaces

When considering what type of learning spaces we want, we need to consider what type of learners we want. NextGeneration learning should be active, collaborative, playful, creative, and self-directed. It should foster collaboration and small group learning; it should facilitate the use of new technologies and integrate content across the disciplines.

The ways that school space is arranged and classrooms are set up say a lot about the kind of instruction we can expect to see in them. Think about who is positioned to see and hear the person leading a discussion (student or teacher), the space a teacher occupies in the classroom (can she easily move around to attend to different student needs, or is she the “sage on a stage” doing the thinking for the students?), the way that students are able to collaborate (with flexible seating and tables), the light and temperature within the learning space (are students and teacher comfortable). All of these factors, and others, have an impact on what kind of teaching and learning experience a student has.

In BPS, space needs to be designed to improve teacher and student morale and boost student achievement; improve the health and safety of school communities; attract and retain teacher talent in schools for longer; and improve attendance for teachers and students (21st Century School Fund, 2011). If we wish to promote NextGeneration learning, we need to shift away from the “egg carton” designs of traditional classrooms and schools where learning tends to be sedentary, passive, and controlled. We need schools that design, create, and use space differently to promote a modern approach to learning.

Following, we outline BPS’s vision for NextGeneration learning spaces. This vision is responsive to the elements of NextGeneration learning presented above. It is also intended to guide the facilities-related recommendations that follow in this report and facilities projects that will be undertaken in coming years.

NextGeneration Learning Spaces are flexible spaces.

Our infrastructure requires that we work within constraints. We also know that the perfect school today could be outdated tomorrow; the pace of change in the world requires us to create spaces that will flex to meet future demands. Flexible spaces facilitate differentiated and cross-disciplinary learning; support multi-modal, multi-channel and technology enabled learning; and allow for greater collaboration. We must configure and furnish space, in existing and new buildings, to be agile and serve multiple purposes. In flexible spaces:

- Classrooms large enough to create multiple zones and breakout spaces to support differentiation, personalization, special needs support and Universal Design for Learning (UDL) approaches.
- Adult and student learners collaborate across all spaces- school, community, and virtual. Space is created for teacher planning, collaboration, and professional development.
- Current and new technology can be installed and adapted to support high-quality learning.
- Furniture is comfortable and can be reconfigured easily.

The following article illustrates how furniture can improve student engagement
<http://www.gettingsmart.com/2015/01/can-classroom-furniture-improve-student-engagement/>



NextGeneration Learning Spaces are sensory spaces.

Our existing spaces often prioritize the intellectual life of the individual. We want our spaces to recognize that learning is not just intellectual, but a physical, social and emotional experience, and that to educate, we must engage our students' senses and personalities as well as their minds. Sensory spaces support whole learner approaches. Sensory spaces are:

- Open and non-constraining, including movable walls;
- Connected with nature (natural light, fresh air) via operable windows and outdoor learning spaces;
- Comfortable and stimulating;
- Appropriately climate controlled with adequate ventilation;
- Spaces for de-escalation and calming;
- Immersed in soothing colors and lack clutter;
- Promote social interaction, self-management, self-awareness, and responsible decision making;
- Feature arts programming (music, visual arts, dance, theater, etc.) and physical activity.

NextGeneration Learning Spaces are contextual spaces.

Our district is comprised of largely old buildings in diverse neighborhoods across a dense urban landscape. We must be imaginative in applying our vision to the context of our district and our specific schools.

We also must recognize the unique aspects of individual communities and neighborhoods within our city, creating opportunities for our schools to reflect this diversity. Contextual spaces leverage assets - rooms, offices, gathering spaces, gardens, parks, community centers - in the local neighborhood environment as teaching and learning spaces. Contextual spaces promote positive identity formation, cultural proficiency and cultural sustainability because:

- Students are able to identify, within the spaces, elements which positively reflect of the local culture and neighborhood identity.
- Community is welcome into the learning environment and schools spaces facilitate partnership and meaningful connection with residents and organizations in Boston neighborhoods.
- Students regard these spaces as extensions of their traditional learning environments that focus on celebrating the place / community.
- The spaces promote student agency by featuring and celebrating young people's work.
- Students can control their environments by moving furniture, displaying work and ideating on surfaces.

NextGeneration Learning Space is safe space.

Feeling safe: getting to and home from school as well as at school is a critical part of having a good and supportive learning environment.

Aspects of school building safety and security, (not all of which can be addressed by the buildings themselves) include: entry sequence, secure building perimeter, technology, safety personnel, and teacher and staff teamwork.

NextGeneration Learning Spaces, in and beyond school walls, can and should be networked.

Dissolving boundaries, whether physical, organizational, or mental, opens up new opportunities to achieve our objectives. We must think systemically as we seek to achieve our educational vision, looking beyond the unit of the classroom — or even the school — to find new ways to give our students the experiences we want them to have. Networking modern learning spaces enable an expansive learning experience. When community learning spaces are networked:

- Students are able to share their learning across their educational spaces, the city as a whole, and globally as well.
- Students are connected across the city, 24-hours a day so learning can take place anytime, anywhere.
- Students are encouraged to move across spaces (classroom to classroom, school building to school building, school to neighborhoods, etc.) so their learning is amplified.