About MAPLE

The vision of the Massachusetts Personalized Learning Edtech (MAPLE) Consortium is to accelerate personalized learning enabled by technology in K-12 public education. The MAPLE Consortium is a public-private partnership between LearnLaunch and the Massachusetts Department of Elementary and Secondary Education to catalyze personalized learning in the Commonwealth with the purpose of better preparing all students for their future.

MAPLE energizes solutions to ensure student access to personalized learning. By building public will and connecting schools with necessary resources—professional learning, digital tools, funding strategies, and a rich evidence base—innovative models of teaching and learning will scale and student engagement and achievement will improve. MAPLE connects K-12 school districts across the innovation spectrum. It enables districts to learn more from each other, provides resources that strengthen local models, and nurtures the discovery of new ideas to transform learning and teaching. MAPLE highlights practices that work, helps educators define personalized learning in their schools, and provides an important forum for policy leadership and action.

LearnLaunch

LearnLaunch catalyzes a community that drives innovation to transform learning. A 501c3 nonprofit, LearnLaunch is an education innovation hub that connects and supports solution creators and adopters to increase student achievement. Believing that edtech can expand access to learning that is engaging, personalized, and effective, LearnLaunch offers learning opportunities and connections to individuals, support services to schools, and a district network—the MAPLE Consortium.

For the past several years, various school districts in the MAPLE Consortium have focused on personalizing students’ learning experience. Their journeys highlight the successes and challenges inherent in school improvement efforts, as well as the ongoing strategies to close student achievement gaps and to change learning and teaching to be more personalized, student-centered, and effective in reaching all students. Through its Bright Spot Profiles, MAPLE seeks to capture, document and share these narratives from the field so other educators may learn what is working and plan how they might proceed in their own endeavors towards student-centered and authentic learning.

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Natick Bright Spot online: learnlaunch.org/maple/resources/reports/natick-bright-spot-profile

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Cover Photo: Natick High School students gather in front of the school for First Year Orientation, a full day of activities during which seniors serving as peer leaders help acclimate incoming freshman to the new school.
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Executive Summary

For the better part of a decade, Natick has been a pioneer in personalizing learning in Massachusetts and nationally, earning numerous grants and awards for its transformative teaching and learning strategies. As one of the first districts to join the Massachusetts Personalized Learning EdTech (MAPLE) Consortium in 2016, Natick provides an example of the progress that can be achieved when adults make a sustained commitment to focus all their efforts on knowing students well, authentically addressing individual students’ needs, and giving students agency over their own learning.

Natick is a suburban public school district located 20 miles southwest of Boston, with more than 600 educators serving over 5,700 students. It is a high-performing district with 94 percent of graduates matriculating to two- or four-year institutions of higher learning. While Natick shows improvement across most accountability measures, as with many comparable districts whose student body is predominantly middle class, white, and English-speaking, the district struggles to ensure that its special education and racial subgroups keep pace with the improvement rates and achievement levels attained by its majority populations. The desire to improve engagement and achievement for all students was a driving factor behind Natick’s decision to embrace personalized learning.

Natick’s journey began early in 2008 when the district was one of the first in Massachusetts to launch a 1:1 laptop initiative. Since then, the district has been a trailblazer in blended learning, using data and assessments to inform instruction, shifting the teacher’s role to that of coach and designer of learning, creating innovative learning spaces, and focusing on future-ready college and career skills.

Defining Personalized Learning: Natick’s Three Pillars

As they shifted toward more student-centered approaches, teachers and district leaders began to consider how they would best define “personalized learning” for their district. The emerging Natick definition of personalized learning included elements similar to those in MAPLE’s emerging definition. In fact, Natick district leaders worked closely with the leaders of MAPLE to help finalize MAPLE’s definition of personalized learning, advocating both for ensuring mastery of the highest standards by all students and for an emphasis on personal connections.

With time, experience, and a bit of trial and error, the Natick team succeeded in identifying three core strategies, called instructional pillars, that are reliably effective in personalizing learning for students and in putting students at the very center of the teaching-learning process. These three core strategies are: Blended Learning, Project-Based Learning, and Social-Emotional Learning (SEL). Natick believes they are key to moving the district forward as a whole and to enabling every student to be successful.

Increasing Student Agency through Deeper Learning

Even as teachers made significant progress in their efforts to personalize learning in every classroom, district leaders realized that many students were still
being “spoon fed,” with teachers making the high-level decisions about what students would study and how students would learn. Determined to provide students with more opportunities and experiences to deepen future-ready skills, the Natick team decided to shore up their instructional design’s underlying foundation and infuse more student agency by incorporating the six Deeper Learning Competencies: Character, Citizenship, Collaboration, Communication, Creativity, and Critical Thinking. This approach served to fortify Natick’s Personalized Learning & Teaching Framework by giving it a firm foundation that underlies its three core strategies.

The leadership team then set a districtwide goal for all teachers to design, manage, and assess engaging, high-quality, project-based learning (PBL) focused on Deeper Learning Competencies and to share, through a districtwide collaborative and reflective process, their PBL designs, their student learning experiences, and other outcomes. At the same time, district leaders gathered feedback from Natick alumni as well as local business leaders and higher education institutions about the skills required for success in college and career. The Natick team used this information to define a “profile of a graduate (POG),” striving to clearly articulate those skills the district expected students to possess or demonstrate by the time they graduated. The Profile of a Graduate initiative now serves as a driving force behind learning and teaching throughout Natick—targeting the building of students’ skills in communication, collaboration, empathy, critical thinking and creativity, resilience, and initiative and self-direction.

Lessons Learned

Over Natick’s decade-long commitment to advancing personalized learning, the district has accumulated some valuable lessons that are essential to its success to date. Some of these lessons, described below, particularly relate to the importance of supporting and building the district’s human capital.

- **Put the right people in the right roles.** Natick creatively designed new roles to support the intensive process of personalizing learning districtwide. Over time, Natick also demonstrated its commitment to personalized learning by sustaining and promoting those teachers and administrators who championed it.

- **Hire and support talented teachers.** Natick has developed a strong process for recruiting and vetting teachers best suited for its innovative work. In addition, its reputation as a leader helps attract new talent.

- **Establish PLCs with real authority.** Strong and effective professional learning communities continue to ensure that Natick teachers play an active role in researching, analyzing, and assessing different approaches to achieving the district’s goals.

Emerging Initiatives and Next Steps

In school year 2019-20 and beyond, Natick expects to continue making strides toward its goal of providing personalized learning for every student. To achieve this goal, Natick is focusing on three main areas: competency-based learning, connecting with the community, and personalizing learning to develop the whole child.

Even districts such as Natick, with a long-established connection to personalized learning, need to continually renew that commitment and assess their progress. In the summer of 2018, nearly a decade after launching Natick’s first personalized learning initiative, district leaders and school committee members held a series of community meetings. At these meetings, stakeholders made it clear that the district needed to revitalize its commitment to personalizing students’ daily learning experiences and to not assume that this important practice would continue without intentional support. This Bright Spot profile tells the story of Natick’s path to personalized learning and examines the district’s ongoing pursuit of a robust education environment where the ideal of individualizing learning for every student is a daily reality in every classroom.

This Bright Spot offers a roadmap and guideposts for districts considering a shift in their learning systems from traditional models to personalized learning strategies. If Massachusetts’ students are expected to be full and successful participants in a dynamic global economy of the future, the proliferation and ubiquity of personalized learning efforts in districts across the Commonwealth will be an essential component to getting there.
Introduction

As leaders strive for greater student engagement and deeper, more personalized learning for all students, “Relationships Matter” is the guiding principle in the Natick Public Schools (NPS). According to Superintendent Anna Nolin, focusing on relationships is the “secret sauce” in Natick’s progress toward giving students the skills they will need to be successful in the twenty-first-century global economy.

What does it mean for relationships to be at the center of Natick’s learning culture? Natick educators have seen that students learn best when they are engaged, feel they are an essential part of the classroom culture, and have positive relationships with their classmates. In Natick, learning is more than a cognitive exercise; it is also social—it’s about forging connections.

Relationships matter for adults, too. Supporting Natick educators is critical to ensuring their ability to build strong relationships with students. All educators in Natick have the respect and support to develop their ideas and pursue innovations. Grace Magley, director of digital learning, points to flexibility with adults as learners as an important key to Natick’s success. The district embraces a “forgiving and flexible” approach that encourages teachers to take risks and to learn from their experiences—both those that succeed and those that don’t quite hit their intended targets. Natick educators use technology effectively to collect and analyze data, which frees them to focus more of their time on establishing strong relationships with their students and tailoring learning to what each student most needs.

Natick is a high-performing school district with 94 percent of graduates matriculating to two- or four-year institutions of higher learning. The district’s per-pupil expenditure is $14,422, which is seven percent below the state average of $15,450.1

While Natick shows improvement across most accountability measures, as with many comparable districts whose student body is predominantly middle class, white, and English-speaking, the district struggles to ensure that its special education and racial subgroups keep pace with the improvement rates and achievement levels attained by its majority populations. Based on 2018 MCAS results, Natick was classified as “partially meeting targets,” showing improvement across 66 percent of accountability measures. Natick has achieved a notable level of success in addressing achievement gaps for students categorized as low income in K-8, but not for high school.

The desire to improve student engagement and achievement was a driving factor behind Natick’s decision to embrace personalized learning; indeed, emerging research suggests that personalized learning may be a key to improving outcomes for all students, especially as measured by their engagement, motivation, and changes in their educational access and opportunities.2
DISTRICT PROFILE

Natick is a suburban public school district located 20 miles southwest of Boston, with more than 600 educators serving over 5,700 students. The district maintains eight school buildings: one high school (which also houses the district’s PreK program), two middle schools, and five elementary schools. The district’s student demographics, as compared with those of all Massachusetts public schools, are summarized below.

Approximately 5,700 students

- 1 high school
- 2 middle schools
- 5 elementary schools
- 1 prek program

Source: Massachusetts Department of Elementary and Secondary Education, 2018-2019
In Pursuit of Personalized Learning

Natick’s journey toward personalized learning began under the leadership of former Superintendent Peter Sanchioni early in 2008, at which time Natick was one of the first Massachusetts districts to launch a 1:1 laptop initiative. Since then, the district has been a trailblazer in blended learning, using data and assessments to inform instruction, shifting the teacher’s role to that of coach and designer of learning, creating innovative learning spaces, and focusing on future-ready college and career skills. In exploring the new skills students needed to develop, the Natick leadership team emphasized and empowered its teachers as leaders, making teacher voice central to changing teachers’ practice and students’ experience. District leaders knew that instruction and student learning would only be transformed if the district and school leaders ensured that teachers were supported in making the shift toward more student-centered learning.

*The Natick belief is that when we use digital learning in combination with skilled teachers, we can better match students’ interests and capabilities to meet the challenges of future college and career readiness.*

Anna Nolin, Natick superintendent

For nearly a decade, Natick relied heavily on teacher voice and agency to lead innovation in the classroom. As Natick educators became increasingly convinced of the need to pursue student-centered, personalized learning, the district’s support of innovation encouraged teachers to try different approaches to reach their collective goal. Multiple groups and grade levels experimented with various strategies and shared their findings with colleagues, who then added their own ideas and refinements. Gradually, the district zeroed in on what was most effective for reaching all students.

As with most innovative processes, the road to personalized learning in Natick was not always smooth and the implementation of the various approaches was not always linear. However, some steps proved to be essential to laying the foundation for future success: (1) providing laptops to teachers (1:1) early in the process and (2) establishing PLCs so teachers could unlock the potential of technology, create together and inspire one another. Many of the other strategies overlapped, as the district’s various PLCs iterated based on what worked best for them and their students.

Natick’s timeline (see page 20) documents the pathway that Natick forged in order to personalize learning in its classrooms. Still, Natick’s story does not provide an instruction manual with orderly steps toward personalized learning for other districts to follow in lockstep. Natick’s lessons lie not in the sequence in which each step was implemented, but rather in the district’s comprehensive array of activities and the organic, inclusive process that inspired each next step. The following sections reflect on Natick’s pursuit of personalized learning over the past decade and highlight the major steps—PLCs, technology and sustained district commitment—that Natick employed along the way. But, Natick leaders are quick to point out, this path toward personalizing learning for all students is one that educators in Natick are still walking.
Rolling Out 1:1 Technology—Gauging the Impact

In 2008, convinced that providing students with laptops and access to technology would improve student engagement and excitement about learning, the Natick leadership team embarked on a four-year plan that began with providing laptops to teachers and administrators. The theory was that only after teachers gained experience, proficiency, and a certain comfort level with these devices would laptops become powerful and transformational learning tools for students. In the summer of 2008, all 325 middle school faculty and staff received laptops and initial training in their use. Over the next two years, teachers participated in extensive professional development to prepare for the rollout of one-to-one laptops for the eighth grade. With the advent of technology came the opportunity for teachers to better tailor learning—allowing students to work at their own pace—and to experiment with learning strategies that were appropriate to different learners’ needs. Importantly, laptops could capture more student data more efficiently; teachers and administrators could then use that data to better understand individual students’ needs and apply that knowledge to customize instruction, curriculum, and assessments.

To gauge the impact of the one-to-one initiative, in 2010 the district initiated a partnership with the Boston College Lynch School of Education research group Technology and Assessment Study Collaborative (inTASC) to conduct a research study and prepare a companion report documenting the district’s middle and high school one-to-one laptop program, commonly called 1:1. In the summer of 2011, Natick’s eighth-grade teachers participated in a two-day training session on Google Docs for Education, Open Office, Moodle, and Apple’s iLife & iWork Suite, as well as classroom management software. With this training as preparation, in the fall of 2011, Natick middle school educators implemented a 1:1 laptop program for all eighth-graders. Eighth-grade teachers and high school teachers collaborated closely over the 2011-12 school year, revising and making improvements to the 1:1 laptop rollout, including changes to how lessons would be taught and how learning management systems would be used. Then, in the fall of 2012, Natick’s new high school building opened with 1:1 implementation at all grade levels 9-12. District leaders leveraged the 1:1 environment and existing professional learning communities to ensure teachers had common projects on which to work and from which to collect data on student skill acquisition. These projects liberated teachers from restrictive traditional curricula and from the district’s strict expectations (such as requiring students to have six writing pieces and four common assessments), creating professional space for teachers to diversify their instructional strategies.

The 2014-15 school year was witness to Natick’s first Innovation and Learning Summit (NILS). This annual Innovation Summit, led by Magley, continues to provide professional development in technology and personalized learning for all district staff. In 2017, a critical feature of the district’s support for teachers was the addition of a full-time position of Innovation Fellow, funded by the Natick Education Foundation. The position was filled by an innovation coach who worked in the area of digital learning and was shared by the elementary schools. The role of the innovation coach involved working alongside classroom teachers to integrate blended lessons, design personalized skill development goals for students, and curate appropriate technology tools. These new tools included personal playlists, dashboards with frequent formative feedback, and programs (AIMSweb, Scantron and eventually, Renaissance Learning), that allowed teachers to see how individual students were struggling or making strides in reading and math. Meanwhile, at the middle and high school levels, teams including principals and teachers collaborated to model and train one another on proven instructional practices that were effective in a digital learning environment. This collaboration further reinforced the strong professional relationships that underlie Natick’s ongoing progress toward personalized learning.
Cultivating Professional Learning Communities—Teachers Leading the Way

Natick’s progress from 1:1 learning to blended learning would not have been possible without the leadership of teachers. They drove the transformation of their own roles from being primarily deliverers of whole-class instruction to being coaches and facilitators who constantly used data to assess their instruction and make real-time adjustments based on students’ needs. The district formalized Professional Learning Communities (PLCs) around 2008, coinciding with three emerging developments: the shift to 1:1 laptops, the use of technology to generate data that could be analyzed to inform instruction and curriculum, and the design and construction of the new high school. In the decade since, PLCs have expanded to become an integral component of the district’s personalized learning evolution and now serve as the foundation of personalized professional learning for the faculty. Every educator in Natick participates in at least one PLC by grade level or department. There are also districtwide Innovation PLCs, involving teachers who work together in search of new solutions to various aspects of pedagogy.

As the PLC process has matured, each PLC team has assumed responsibility for clarifying what students are expected to learn—the essential knowledge, skills, and dispositions of each course or subject, unit-by-unit—using power standards or essential learning outcomes. Each PLC team defines eight to ten power standards per semester for its grade level and/or subject area. Teams also develop at least four common assessments per semester for its grade level and/or subject area. As the year unfolds, the PLC and data teams analyze assessment results and then design response to intervention (RTI) strategies to address the data-revealed student needs and/or to revise the curriculum if it is lacking. This in-depth analysis, focused on student needs, helps teams formulate effective goals and identify effective instructional strategies, including the appropriate technology to support instruction. PLCs also create systems to ensure students receive additional

Middle school students work in stations with 1:1 Chromebooks.
time and support for acceleration and enrichment if they are mastering content and skills beyond the course expectations.

“We are big believers in PLCs. This is something we are firm on in our district. We teach to the standards, but how teachers get there is up to them. We have common assessments and a curriculum, but we want innovation and for our teachers to bring their personalities and individual talents into what they teach.”

Grace Magley, Natick director of digital learning

PLCs are instrumental in helping Natick to achieve its teaching and learning goals. Teacher voice is essential, as are the development and use of common formative assessments and multi-tiered systems of support. Two of the most robust districtwide Innovation PLCs have focused on Project-Based Learning (PBL) and student-led Individual Education Plans (IEPs). The work of these PLCs is described in more detail in the following sections (pages 11-12).

Focusing on “Not Just Laptops”—Finding a New Way Forward

The Boston College inTASC research was encouraging, with findings that supported the 1:1 initiative from both teachers’ and students’ perspectives. More than 80 percent of teachers indicated they were moderately or very well prepared to use technology in instruction. The researchers identified a correlation between the rise in the district’s math scores on MCAS and the deployment of the 1:1 program.7

The 1:1 laptop initiative kicked off Natick’s journey, but the district’s focus on teacher and student relationships meant that the use of laptops was not an isolated project. Instead, the 1:1 initiative became the impetus for a whole new way of teaching and learning. From the beginning, Natick leaders communicated that 1:1 was not a technology project, but “a project to support learning.”8

Our conversion to the use of digital learning modes is only as good as the teachers and staff who design learning experiences and deliver quality instruction.”

Dennis Roche, Natick technology director

Beginning in 2008, Natick highlighted for district staff and the community the need to think differently about teaching, learning, and the role of technology. For example, in 2008, the same year the 1:1 laptop initiative began, teachers also participated in a Teacher Web Page Pilot in which 25 teachers from elementary through high school piloted innovative uses for their classroom web pages, incorporating blogs and opportunities for students to create an online classroom community.9 In 2009, the district launched an annual Town Technology Day. In 2009-10, the district established a goal of creating twenty-first-century learning environments in classrooms throughout the district and universally began using Google apps and Moodle.

Each of these innovations was remarkable at the time. Little did the district team know, though perhaps they did hope, that this early work in technology was laying the groundwork for much greater accomplishments to come—such as the advent of blended learning, which by itself would foster monumental leaps toward the goal of personalized learning for every student.

Garnering Support—Committing to Personalized Learning

As word began to spread throughout Massachusetts and nationally about Natick’s innovative use of technology and its correlation to improvements in teaching and learning, grant awards and accolades followed. These awards, and the public recognition that came with them, validated Natick’s early personalized learning efforts and provided motivation to keep innovating and honing educators’ expertise. Meanwhile, the Boston College inTASC report, published in 2013, delivered the research basis and the initial momentum that helped to propel personalized learning, offering evidence for Natick to continue and even deepen its support for...
personalized learning and bringing broader recognition of Natick as an early leader in the state. Building on this positive energy, in 2016 Natick explicitly formalized its commitment to personalized learning for all students by incorporating the term into the district’s public-facing Theory of Action and Vision Statement. The commitment to personalized learning is also confirmed in Natick’s 2018-23 Strategic Plan, where it is referenced in three of the district’s four goals (see Exhibit B).

In 2009, Natick was one of ten districts selected by the Commonwealth of Massachusetts to be part of a collaborative grant called Project ABLE: Achieving Blended Learning Environments. The grant funded professional development for 50 teachers in blended learning for STEM—a combination of traditional and technology-based instruction. As teachers learned how to create blended learning environments in their classrooms, the integration of technology into teaching and learning grew.

In 2013, the Natick Public Schools received the Apple Distinguished Schools award, which designated the district as a leader for the next four years. Apple

If the Natick Public School District invests in a personalized instructional design and educator professional development model, we will ensure a high-quality education for all students, hold ourselves accountable for excellence, and nurture our community relationships in the process.”

Natick Theory of Action

“...provide all students with personalized learning environments that promote deeper authentic learning experiences.”

Natick Vision Statement

Distinguished Schools are considered by Apple to be “centers of educational excellence which demonstrate the company’s vision for learning with technology,” and are described as “some of the most innovative schools in the world.” Apple awardees must have an established one-to-one program, make innovative use of the Apple platform, have faculty proficient with iPads or Macs, and provide documented results of the tools’ impact.
School year 2012-13 brought another honor when Natick was selected as one of Project RED’s first ten Signature Districts—the only Massachusetts district to be so named. Project RED, an initiative focused on the use of technology to improve student achievement, described Signature Districts as those that “have made a definitive commitment to improve student learning and provide personalized instruction through a meaningful integration of technology, ongoing professional development and administrator support.”

Defining Personalized Learning—Joining with MAPLE
Teachers and district leaders began to consider how they would best define “personalized learning” in Natick. Simultaneously, district leaders were working closely with the leaders of MAPLE to help create MAPLE’s definition of personalized learning, advocating both for ensuring mastery of the highest standards by all students and for an emphasis on personal connections. Natick’s work in moving to blended and personalized learning, along with its early research and planning, influenced the current MAPLE definition of personalized learning, which Natick then adopted.

In December 2016, Natick hosted MAPLE’S launch with 120 educators and partners from across the state. The launch was designed to help participating educators learn from Natick’s progress in incorporating personalized learning at all grade levels. The day included a keynote address by author Michael Horn entitled “Personalizing Learning: Behind the Buzzwords,” as well as the first MAPLE Learning Tour, which featured Natick classrooms at the elementary, middle, and high school levels.

Shifting to Project-Based Learning—Aiming for Deeper Learning
In 2017, with classroom technology ubiquitous and blended learning on its way to becoming second nature, Natick educators and district leaders began to expand the number and types of personalized learning strategies incorporated into students’ everyday classroom experiences. Technology was no longer

MAPLE PERSONALIZED LEARNING DEFINITION

Personalized learning seeks to accelerate student learning by tailoring the instructional environment—what, when, how and where students learn—to address the individual needs, skills and interests of each student.

Within a framework of established curriculum standards and high expectations, personalized learning motivates students to reach their goals. Students take ownership of their own learning and develop deep, personal connections with each other, their teachers and other adults.

Technology is necessary to implement personalized learning effectively, affordably, and at significant scale. Teachers leverage technology to gain detailed and timely knowledge of their students that guides instruction. Effective use of technology allows teachers and students to focus more on creativity, critical thinking, and collaboration.
the primary starting point for personalizing learning, but rather a tool in the overall strategy. The district’s leadership team recognized that in a world where job responsibilities and career opportunities are changing quickly and radically, the role of educators becomes one of preparing students to be lifelong learners and to take responsibility for their own development.

To address this changing landscape for both students and teachers, Natick decided to embrace project-based learning (PBL). Nolin describes moving to project-based learning as a “huge change in practice.” Accordingly, the Natick team started slowly and intentionally with a small core group/PLC of middle school teachers who implemented PBL and prepared to share with others what they had learned. In 2018, Magley organized a PBL “hackathon” in which the core teacher team presented their projects and obtained feedback from other teachers. Magley worked with school principals to negotiate one full hour in the professional development schedule when teachers could participate in the hackathon after school. She designed a structured protocol to keep the event to an hour, inviting MAPLE colleagues from other districts to facilitate and give feedback during the sessions. The hackathon was valuable to all participants, serving to spread the concept of PBL to more classrooms and deepening the work of the early implementers. Some aspects of the professional development for PBL sprang from the Deeper Learning Competencies framework that would later become more explicit in the district as PBL experiences were refined (see pages 13-14).

This incremental approach to implementation has proven effective with multiple programs adopted in Natick, allowing the district to introduce a strategy on a small scale while fostering buy-in and ensuring that changes in practice are sustained over time.

Everything’s a continuum; nothing has to be finalized in a year. If at first you don’t succeed, try again. If we undertake an initiative and we do not feel we have reached the desired result in the first year of implementation, we learn from the experience, make improvements, and try again the following year.”

Grace Magley, Director of Digital Learning
Pillars of Personalized Learning

With time, experience, and a bit of trial and error, the Natick team succeeded in identifying three strategic instructional initiatives, referred to as “pillars,” that are reliably effective in personalizing learning, putting students at the center of the learning and teaching process. These three instructional pillars—Project-Based Learning, Blended Learning, and Social-Emotional Learning (SEL)—are at the heart of Natick’s personalized learning and teaching framework for student-centered learning.

To assist district educators and the community in understanding the components of personalized learning and how they support student-centered learning, and to help maintain focus on implementing these important instructional strategies, the district created a concise graphic: the Natick Personalized Learning & Teaching Framework.

Many Natick teachers are already incorporating these instructional strategies, but to different degrees in different classrooms—and some teachers, particularly those new to the district, may be implementing only one or two. Therefore, part of Natick’s challenge is to maintain teachers’ attention on the goal of everyone’s reaching a high level of understanding and an appropriate level of implementation of all three pillars. The district uses the graphic in faculty conversations and professional development to illustrate what Natick considers to be robust Student-Centered Learning for all students.

By 2018, with blended learning environments firmly established, Natick educators were on the pathway to providing more customized learning opportunities for their increasingly diverse student population. However, they realized that many students were still being “spoon fed” in the classroom, with teachers making the high-level decisions about what students would study and how students would learn. To develop independent learners and prepare them for future success, Natick leadership knew they needed to work on giving students more power over, and responsibility for, their own learning. If the three instructional pillars could be more effectively implemented, then the learning environment would create more opportunities for student agency—so that students could help direct their own learning, give voice to their own interests and strengths, and take responsibility for outcomes. Natick perceived that these three instructional strategies, used separately and in tandem, would help students of all ability levels develop the independent decision-making skills that are vital to their future success. The vision was that as teachers focused on personalizing learning, they would simultaneously be increasing student agency.

The following section highlights various examples of Natick’s current efforts to personalize student learning and to increase student agency through project-based learning, blended learning, and social-emotional learning. For the sake of clarity, these examples are organized by primary strategy; however, the amount of overlap among all the strategies increases as teachers become more adept at implementing them.
Project-Based Learning

STEAM PROJECTS (Preschool)
To celebrate STEAM (Science, Technology, Engineering, Arts, and Mathematics) week, Natick preschool students transformed each classroom into an inquiry and creativity lab with ten stations. Parents and students moved through the stations with preschoolers as the learning guides. Activities included a chemical reaction to make a model volcano erupt, the physics of launching catapults, coding robots to create beautiful art, creating new species of dinosaurs with original paintings, and traveling virtually to Mexico to join the wintering monarch butterflies. Participants did experiments using math, science, and music skills. Each station was designed by students and aligned to the Massachusetts standards for preschoolers.

STEM LEARNING ENVIRONMENTS (Middle School)
Kennedy Middle School—slated to open in winter 2021—was designed around STEM project-based learning units created by Natick educators. The facility will include a planetarium, classroom STEM labs, a fine and performing arts center, a black box theater and music production studio, a guitar lab, an aquaponics lab to teach students about closed cycles and urban farming, a video production/TV studio, technology labs including a virtual and artificial reality lab, and a fully functioning greenhouse and rooftop gardens. Students will have spaces for augmented and virtual reality experiences that are authentic and engaging. The site itself, with complex wetlands and conservation areas, is being designed as an outdoor classroom. Similar features will also be incorporated into the district’s other middle school, Wilson.

STEM WEEK AND iLEARNING (Middle School)
To prepare the middle schools for their new lab resources, Natick partnered with iLearning, which provided middle school teacher teams with summer training. Educators learned to implement two week-long, project-based STEM units—one on lunar landscapes and one on urban farming. The units present math, science and design/engineering concepts in an interdisciplinary manner, foreshadowing what will become the norm once the new school opens in 2021. During STEM week in 2018, state senators and representatives and the commissioner of education visited to see Natick students engaged in these units.

SENIOR YEAR REDESIGN (High School)
High school students hosted a “Profile of a Graduate” community event, with a panel of employers, colleges and public service leaders focused on developing a plan to “redesign senior year” to ensure students attain the knowledge and skills to achieve success in college and career. To prepare for the event, students conducted 150 interviews with adults in the community. Students, along with school and district leaders, then used the interview data as well as notes from the community event to develop a list of qualities that graduates should possess in order to become active, informed, and responsible young leaders. In school year 2019-20, high school students are participating in a pilot capstone class that will include an internship, capstone project, and presentation to a board of experienced, in-sector community members. Principal Brian Harrigan, Superintendent Nolin, and School Committee Representative Henry Haugland continue to connect with area businesses through economic development and chamber of commerce networks to deepen connections to and create partnerships with community stakeholders in order to support this real-world, personalized, and project- and work-based learning for students. Natick educators also continue to refine and improve the Profile of a Graduate, using it to inform Natick’s 2018-23 strategic plan. Exhibit B includes more information about Natick’s strategic plan and Profile of a Graduate.

Blended Learning

DIGITAL LEARNING BADGES (Elementary School)
Elementary students engage in a Digital Learning Badge initiative, which empowers students to have a voice in choosing their projects and reflecting on their digital learning journey. This passport-style badging system aligns district learning objectives with the ISTE (International Society for Technology in Education) standards in a self-paced, student-directed model. This program was showcased by students at MassCUE’s Education Evolution day at the Statehouse in June 2019.

ePORTFOLIOS (Middle School)
Wilson Middle School students create digital portfolios, using tools such as GSuite for Education. They update their ePortfolios throughout the year, prompting them to constantly reflect on their work and document their learning to share with others. In 2019-20, this work is being supplemented by use of SeeSaw and the Thrively platform, which is described in more detail on page 19.
COMPUTATIONAL ART (High School)
Natick High School students use the software program Desmos to produce art drawings by applying advanced math equations from their pre-calculus class. Then they import those drawings to TynkerCad to form the art on 3D printers. This interdisciplinary project motivates students to apply higher-level math concepts, create unique art pieces, and do computer coding.

Social-Emotional Learning
As Natick has progressed toward personalizing learning in every classroom, district leaders and teachers have focused on strengthening aspects of the district’s culture that can help support this focus on students’ needs. Building upon the district’s guiding principle that relationships matter, Natick’s leaders are making a particular effort to formalize this principle by incorporating social-emotional learning (SEL) at every grade level, PreK-12.

SEL & RELATIONSHIPS MATTER (Districtwide)
When Natick leaders solicited input from community members, parents asked that schools “coddle students less, give them more agency over their learning, and develop their skills to make their own decisions.” In response, Natick’s leadership team launched its annual districtwide meeting with the theme “Relationships Matter” and invited Natick graduates to share their “success stories” regarding how schools helped them set their course. Next, district leaders established a steering committee to ensure the continuity of the district’s SEL work across grades and across schools. The district also began working with William James College to expand and support educators’ understanding of SEL. Discussions of future work revolve around the development of assessment tools to help measure SEL’s impact on students.

GROWTH ASSESSMENTS AND RESPONSE TO INTERVENTION (High School)
High school faculty designed assessments that directly measured students’ progress on each quarter’s power standards. Students who were not successful in demonstrating mastery of these standards were asked to join high school Response to Intervention (HS RTI) blocks in ELA, math and science (as needed), in addition to their regular classes in these areas. Led by some of Natick High School’s strongest faculty members, according to Superintendent Nolin these classes enable “personalized teaching for our most fragile learners [which has] allowed the learning community at large to grow stronger.” In 2019-20, Natick was selected as one of ten school districts to participate in the Massachusetts Department of Elementary and Secondary Education’s program evaluation pilot to evaluate the effectiveness of its RTI blocks and will make requisite improvements to the program based on findings from this work.

STUDENT-LED IEPs (Districtwide)
A group of teachers across the district established a PLC to focus on improving the Individualized Education Plan (IEP) process by incorporating more student voice. Their work led the district to develop two related goals: (1) eighty percent of students with IEPs will become aware of, and implement, the Self-Determination Learning Model of Instruction (SDLMI) and incorporate one specific goal into their IEPs, and (2) ten percent of students with IEPs will increase active participation in their IEP development by piloting the Student-Led IEP Process. To support this goal, all special education staff received training in the Self-Determination Learning Model of Instruction and in research-based practices for student-led IEPs.

FAMILY ENGAGEMENT NIGHT (Districtwide)
Natick leaders are working closely with the community to establish a common language about SEL skills. The district held a Family Engagement Night—a parent forum designed to share information with parents and gather their feedback. Natick’s Special Education Parent Advisory Council (SEPAC) and Spark Kindness—a group that helps build resiliency—facilitated the discussions. Nolin’s team and SEPAC leaders established a parent book group at every school to read and discuss the book Social Emotional Learning (SEL) in the Home: A practical guide for integrating the development of social-emotional skills into your parenting, which is the “home companion” to a book Natick educators are reading about SEL in the classroom. In addition, district leaders and SEPAC engaged public service professionals such as school nurses, police and fire department officials, and religious leaders in conversations about SEL, seeking their support in making social-emotional learning a community-wide priority.
Deeper Learning & Profile of a Graduate

By the start of the 2017-18 school year, the Natick team had scaled personalized learning across all grade levels and had incorporated blended learning in grades 3-12. Teachers had shifted their role from being purveyors of knowledge to being coaches, facilitators and designers. But another pivotal change was about to take place.

In the summer of 2017, the Natick leadership team—consisting of the superintendent, assistant superintendents and school principals—attended a five-day institute with EdLeader21, a national network of district and school leaders. Returning from the institute and discussing what they had learned, the leadership team realized they were facing a significant districtwide “problem of practice.” The team defined the problem as follows: “Students in Natick Public Schools need more opportunities and experiences to deepen future-ready skills that include communication, collaboration, critical thinking, problem solving and creativity. Students across all levels do not consistently apply deeper learning competencies.” This problem would not go away on its own. The team needed to find a way to address it. For help, they returned to a concept the district had first begun exploring in 2015-16. With the support of professional development funded by the Natick Education Foundation, the team re-examined the role of Deeper Learning Competencies and how those competencies could be used to strengthen their strategic planning and goals.

Seeking to intensify their work of preparing students for success in future roles and careers, the Natick team focused more closely on the Deeper Learning reform movement. Barbara Chow, former education program director at the William and Flora Hewlett Foundation, describes the movement this way:

“The core goal of Deeper Learning reform is really to set a more ambitious set of goals for students that better match what we need for the global economy. These skills include the ability to think critically and solve complex problems, to work well in teams, to communicate effectively, to learn how to learn—all applied to the mastery of rigorous academic content.”

The team was confident that the district’s current goal of student-centered learning was the right one and that the three instructional strategies were making a difference. However, the district wanted to clarify and strengthen the framework’s foundation—anchoring it in these essential six Deeper Learning Competencies: Character, Citizenship, Collaboration, Communication, Creativity, and Critical Thinking. This approach served to fortify Natick’s Personalized Learning & Teaching Framework by giving it a strong base that bolsters the three established pillars. Below is the final iteration of the district’s graphic for student-centered, personalized learning, demonstrating the foundational role of the Deeper Learning Competencies.

NATICK’S PERSONALIZED LEARNING & TEACHING FRAMEWORK

Scaling Deeper Project-Based Learning Districtwide

Informed by this focus on deeper learning, Natick engaged in a partnership with Northeastern University’s Global Network of Experiential Learning Educators (NExT). NExT worked with the district leadership team to establish three teaching and learning goals to
deepen and broaden Natick’s engagement in deeper learning: (1) all NPS teachers will design, manage, and assess engaging, high-quality, project-based learning (PBL) focused on Deeper Learning Competencies; (2) all NPS teachers will be able to access high-quality, professional learning opportunities focused on topics that include universal design for learning, project-based learning, design thinking, blended learning, and social-emotional learning; and (3) NPS educators will be transparent about—and will share through a districtwide collaborative and reflective process—their PBL designs, their student learning experiences, and other outcomes.

To address the district’s identified problem of practice at the classroom level, Natick leaders set a goal for each principal to “collaborate with teachers to create one deeper learning experience for students at their school through an encounter with project-based learning linked to learning outcomes” and incorporating the 6Cs of deeper learning (character, citizenship, collaboration, communication, creativity, and critical thinking). Every teacher in PK-8 was asked “to implement one deeper learning project-based experience” of their choice, though some teachers incorporated more. At Natick High School, teachers also “refined and tested the creation of a new project-based civics course.”

As grades PK-8 embraced this deeper-learning PBL goal, the projects at the middle school served as an important first step in implementing PBL more systemically across the district. Director of Digital Learning Magley was determined to build on that success. In keeping with Natick’s iterative approach, Magley oversaw a process in which the teachers who had directed the first projects could solicit feedback from their peers to help them refine and improve their projects, deepening future students’ learning experiences. Seeking to engage more teachers in the conversation, Magley created a website—a PBL Virtual Gallery—where middle school teachers could post brief descriptions of their students’ projects.

In spring 2018, Magley conducted the PBL “hackathon” described on page 9. The core teacher team reported that the event was highly valuable—peers contributed helpful comments about the projects and the process, and leaders received useful feedback they could carry forward to the next round of projects. In addition, these core teachers, whose teaching practice was transformed by their PBL work, have become leaders who conduct professional development for, and share their PBL knowledge with, their Natick colleagues.

Harnessing Community Engagement to Define Natick’s Profile of a Graduate

As part of Natick’s work to deepen learning while keeping student voice and agency central to the learning process, in 2017 and 2018 school and district leaders began to re-examine, clarify, and articulate what it means to be a successful graduate of the Natick Public Schools. At this time, Natick conducted alumni call-back days, which were opportunities for recent district graduates to share feedback about the skills they discovered they most needed upon graduation. Based on that feedback as well as conversations with local business leaders and higher education institutions about the skills required for success in college and career, it was evident that students needed to achieve more than academic goals. Natick began fine-tuning its “Profile of a Graduate (PoG),” striving to articulate more clearly those skills the district expected students to possess or demonstrate by the time they graduated.

As described in the Senior Year Redesign section on page 11, the Natick leadership team also worked with staff and students to research and understand the knowledge and skills that high school students need in order to be successful in college and beyond. As part of the PoG initiative, Principal Harrigan approached the superintendent and the school faculty with an idea for redefining the senior year. In 2018-19, Harrigan taught a class of 15 seniors who served as research interns to solidify the concepts and format that would eventually define Natick’s Profile of a Graduate. As part of their work, the students advised high school and central office leaders on the types of internships, courses, and other experiences that would inspire them to complete a year-long senior research study in their area of interest. The year-long research study now replaces the somewhat limited internship program previously offered at NHS.
One outcome of these myriad activities is encapsulated is the following depiction of Natick’s Profile of a Graduate. The graphic incorporates nearly all of the Deeper Learning Competencies and is a collaborative, living tool that iterated as regular feedback from students and the community was incorporated. The graphic is likely to continue to evolve to reflect Natick's constant pursuit of better real-world preparation for its students.

### PROFILE OF A NATICK GRADUATE

#### COMMUNICATION
Students articulate thoughts and ideas effectively using oral, written, and nonverbal communication skills in a variety of forms and context.

#### COLLABORATION
Students demonstrate the ability to work effectively and respectfully with diverse teams.

#### EMPATHY
Students demonstrate understanding of others' perspectives and needs and listen with an open mind to understand others' situations.

#### CREATIVITY, CRITICAL THINKING, & PROBLEM SOLVING
Students collect, assess, and analyze relevant information, reason effectively, use systems thinking, and make sound judgments and decisions.

#### RESILIENCE
Students persist to accomplish difficult tasks and to overcome academic and personal barriers to meet goals.

#### INITIATIVE & SELF-DIRECTION
Students set goals with tangible and intangible success criteria, while balancing tactical (short-term) and strategic (long-term) goals.

#### GLOBAL CITIZEN LEADER

"Living tool that iterated as regular feedback from students and the community was incorporated. The graphic is likely to continue to evolve to reflect Natick's constant pursuit of better real-world preparation for its students."
Lessons Learned

Over Natick’s decade-long commitment to advancing student-centered, personalized learning, the district accumulated valuable lessons that are essential to its success. These key lessons, described below, particularly focus on the importance of supporting and building the district’s human capital.

Put the Right People in the Right Roles

Natick is strategic about the structure and functions of its teams; each member of the district and school leadership teams is responsible for advancing personalized learning.

Sustain School and District Leadership

Current Superintendent Anna Nolin joined the Natick Public Schools as middle school assistant principal in 2003 and became middle school principal in 2007. In 2009, as middle school principal, she oversaw the eighth-grade pilot of 1:1 technology that informed the 1:1 rollout for grades 9-12 in the newly built NHS. Nolin was appointed assistant superintendent of teaching, learning and innovation in 2014 and became the superintendent in 2019. Her gradual rise through the ranks gives her a perspective on district issues that is both broad and deep.

Grace Magley joined the Natick Public Schools as director of digital learning in 2013, after spending 15 years as the director of technology in the Millis Public Schools (see Millis Bright Spot Profile). Nolin and Magley have worked together for the past six years to hone Natick’s instructional model and to message it clearly, striving to deepen staff understanding and to identify and share the best practices emerging from the PLCs—particularly from the Innovation PLCs.

Create New Roles

Natick has established a few key roles that are not typically part of public school district leadership teams.

Director of Digital Learning: Magley’s position was created to lead and strengthen the district’s implementation of digital technologies through research-based practices that would personalize teaching and learning in the Natick Public Schools. In her role, she works collaboratively with teachers, departments, and schools at all grade levels to advance the purposeful use of digital tools for personalized teaching and learning. Responsible for helping new staff understand personalized learning, Magley leads districtwide professional development through the annual Natick Innovation and Learning Summit and designs and facilitates graduate courses for Natick educators that support student-centered, personalized learning practices. At each school, Magley facilitates Innovation PLC teams that pilot new online systems and find solutions to various problems of practice.

Communications Manager: Recognizing the need to develop a cohesive message and to better communicate the innovative teaching happening within the schools, district leaders created the position of communications manager, hiring Christina Maryland in 2016. Maryland strategizes and coordinates messaging in support of short- and long-term initiatives, unifies and streamlines internal and external communications, and works with key stakeholders to ensure the public is aware of and included in formulating Natick’s goals for the future.

Innovation Coach: In the 2017-18 school year, the Natick Education Foundation (NEF) provided a grant to fund the position of Innovation Fellow. This pilot role followed the Foundation’s three previous years of funding fellowships for teachers to attend specialized professional development focused on Natick’s deeper learning mission. The inaugural Fellow position was used to create the new role of innovation coach. The role was filled by Jed Stefanowicz, who concentrated his efforts on digital learning. Stefanowicz modeled and provided training in the integration of technology to enhance instruction, helping shift students from being consumers of content to creating their own content. He worked with elementary classroom teachers to transform learning spaces into innovative learning environments that featured activities such as coding, robotics, STEM
challenges, and design thinking. In this new role, Stefanowicz provided leadership, staff development, and job-embedded support to all elementary staff as they integrated technology and innovative practices, while focusing intensely on student learning. Stefanowicz also wrote a regular blog spotlighting new technologies, learning tools, and teaching approaches and how to use them with students. The NEF’s funding of this position is a solid indicator of community involvement and support for Natick’s work.

**Hire and Support Talented Teachers**

Natick’s dedication to PLCs, its innovative approach to professional development, and its strong academics combine to help the district attract high-quality teachers. According to Magley, Natick has developed a rigorous process for recruiting and vetting teachers who are best suited for the innovative work that is central to the district’s instructional practices. In addition, Natick has invested in a teacher mentoring program. Magley meets with all new teachers individually and talks with them about how the district has approached the challenge of innovation. The district regularly incorporates co-teaching and finds that working in PLCs helps new teachers become acclimated to co-teaching expectations. Within the first three years of employment, teachers complete two graduate-level courses, including an in-house course on teaching and innovation in which new teachers must demonstrate their ability to transform a traditional lesson so it aligns with Natick’s emphasis on blended learning, personalized learning, and innovation.

**Establish PLCs with Real Authority**

The growth and evolution of strong and effective professional learning communities (PLCs), has continued to ensure that Natick teachers play an active role in researching, analyzing and assessing different approaches to achieving the district’s goals. PLCs in Natick have both the freedom and agency to devise strategies that support student needs. PLCs have designated team leaders, and individual PLC members define their own norms and goals. Importantly, Natick PLCs have the power to make decisions related to curriculum and instructional practices.

**“It’s all about the PLCs. Teaching is an intense and sometimes solitary job. Change in education is best served in collaborative teams—and encouraging deeper, project-based learning and personalized learning means change for many. Natick’s work, and my own, has been to invest in professional learning communities and the culture of innovation in the district. Doing so—cultivating relationships, defining non-negotiables and cementing high-functioning teams together to implement the Natick core values—is the secret to sustaining personalized learning for teachers and for students.”**

Anna Nolin, Natick superintendent

**“We are better when we work together toward a common vision. I’ve learned that we must let our teachers lead the innovation and change we want to see in order to build buy-in and to be successful at scale. This means supporting them with time, training, and resources so they can develop their personal and professional expertise. Our challenge lies in getting all teachers to be willing to take risks, to be resilient when failure occurs, and to keep trying. Student-centered learning is a great example of this. Teachers are hesitant to give students more ownership of their learning because they worry that test scores will go down or that students won’t learn. Encouraging our educators to try new things in the classroom, to be reflective, to learn from their own experience and others; and to iterate to achieve success for students are all vital to the success of our change process.”**

Grace Magley, Natick director of digital learning
Next Steps and Emerging Initiatives

In school year 2019-20 and beyond, Natick expects to continue making strides toward its goal of personalized learning for every student. As the leadership team considers the future directions for Natick, Superintendent Nolin frames its priorities this way:

“There is no substitute for what happens between a teacher and student. We [as district administrators] will do whatever we need to do—more tech, different tools, or more time—so teachers feel like they can be present for their kids.”

In keeping with this stance, district leaders are focused on and anticipate scaling up three key areas in the coming years: (1) competency-based learning, (2) community engagement, and (3) personalizing learning for the whole child.

Focus on Competency-Based Learning

Natick’s PLCs were encouraged to designate power standards, which established the priorities for what students at each grade and in each subject should know and be able to do, as well as common assessments to determine students’ level of mastery of these standards. Teams of teachers now use power standards and competencies aligned to Natick’s Profile of a Graduate.

When a new STEM curriculum was mandated by the Massachusetts Department of Elementary and Secondary Education in 2016, Natick created three project-based STEM units per grade level. These units were designed to help students build the skills and knowledge to master the standards. Using the project-based units, students demonstrate mastery of specific STEM concepts—but do so in a way that doesn’t result in a traditional grade. Students demonstrate, through hands-on projects and/or activities, their mastery of cross-cutting STEM principles such as pattern recognition or iterative design. Teachers then collect and assess these products and report students’ level of mastery on the standards-based report.

Building on this work, in school year 2018-19 Natick began using a standards-based report card for students in grades K-5. At the secondary level, Natick has used a standards-based progress report for decades and updated it in 2016-17 to reflect revisions to MA curriculum frameworks. But the high school’s movement to competency-based learning has been slower and less all-encompassing than progress in grades K-5. A group of educators in Natick’s alternative high school, Northstar, piloted the Summit learning program, a personalized teaching and learning program focused on mentoring, real-world projects, and fostering students’ self-direction. Natick’s high school teams have just begun to examine the shifts in philosophy and instructional practice that would be necessary to move to competency-based learning for all students. Natick envisions that the district will continue to expand and intensify its work on competency-based learning at all grade levels. At some point, competency-based learning could even become a fourth pillar in Natick’s Personalized Learning & Teaching Framework.

Strengthen Community Engagement

In Natick’s 2018-23 Strategic Plan, one of the four goal areas is “Nurturing Connections.” The district believes involving community stakeholders is not only a critical element in supporting the “Relationships Matter” principle but is also a key element in supporting social-emotional learning and personalized learning for students. What is modeled and shaped for students in school will likely influence their behaviors and actions in later life.

Natick has held, and will continue to hold, community forums on diversity, equity and inclusion to address real issues that affect families in micro and macro ways. By partnering with Spark Kindness, Natick is able to access engaged community leaders who work with families on complex issues. Parent workshops, along with the community network formed through Spark Kindness, create opportunities for staff to collect feedback that
informs the district about the challenges that parents face every day.

**Develop the Whole Child**

With a goal of better integrating its blended learning, project-based learning, and social-emotional learning initiatives, Natick decided to pilot the Thrively platform in 2019-20. While the deepest implementation is at the middle school level (involving all students in grades 5-8), its use is also being explored with grades PreK-5. The Thrively platform combines the three components of personalized learning in Natick—blended and project-based learning instructional practices, plus social-emotional learning processes—in an effort to address the needs of the whole child.

Through the Thrively platform, students can measure their strengths, their interests, and their Habits of Mind to develop self-awareness, find purpose, and build skills in a real-world context that’s of interest to them. The tool has the potential to give students an opportunity to collaborate on their learning, while giving parents a real-time window into the classroom.

In summer 2019, eighteen Natick educators and specialists were trained in Thrively and used it to develop playlists, projects, and learning experiences for their middle school students. As they gain experience with the platform, the team anticipates using Thrively’s capacity for personalized assessments, the creation (and tracking) of individual goals and projects, regular meaningful reflection, and personalized pathways to empower innovative and self-aware young citizens. These educators designed an action plan to examine, scale, and roll out Thrively’s features and capabilities throughout the district; they will also serve as trainers for the rollout.

In combination with the Profile of a Natick Graduate initiative, Thrively provides a means of measuring each student’s progress toward individual goals. Natick’s 2019-20 Action Plan includes an expectation that in school year 2019-20 all middle school teachers will select at least one of the Profile of a Graduate competencies to incorporate into their teaching.
Natick’s Personalized Learning Journey

2008

- Peter Sanchioni, superintendent; Anna Nolin, middle school principal
- Seventh- and eighth-grade teachers grade teachers receive laptops and training to prepare for 1:1
- Teachers participate in Apple professional development on 21st-century classroom
- Professional Learning Communities (PLCs) are formed and teachers participate in professional development in Moodle
- Natick Education Foundation hosts first annual Taste for Technology fundraiser, which builds community and business support and helps fund new technology for Natick’s K-7 classrooms
- 25 K-12 teachers participate in Teacher Web Page Pilot
- Emerging use of technology for generating data to inform instruction

2009

- Natick is one of ten districts selected by the state to participate in Project ABLE (Achieving Blended Learning Environments)
- District engages parents in conversations to define student expectations and provide parent training
- Natick hosts first “Technology Day” for the town
- District establishes goal of “creating a 21st-century learning environment” through universal use of tools such as Google apps and Moodle

2010

- Natick/Boston College Research Partnership launches an external evaluation of 1:1 impacts and conducts pre-1:1 survey of eighth-grade students
- District leaders study Natick High School schedule with the goal of increasing professional development opportunities
- Both middle schools (Wilson and Kennedy) launch wireless infrastructure

2011

- Grade 8 teachers engage in two days of training on software applications
- Implementation of 1:1 laptops in Grade 8
- Development of a 1:1 “vision” for high school students
- Grade 8 and high school teachers collaborate on plans for high school 1:1
- High school works to create a “Technology Model Classroom” and an Apple Classroom, as well as expand the Nova Net program

2012

- New high school opens with implementation of 1:1 laptops in grades 9-12 and whole-school wireless infrastructure
- New student expectations rolled out
- Natick selected as one of Project RED’s first ten Signature Districts
- District designated as an Apple Distinguished School for 2013-2017
2013

- Grace Magley named Director of Digital Learning
- Natick hosts a regional Blended Learning conference, keynoted by Shawn Rubin of the Highlander Institute
- Natick elementary schools receive K-4 classroom sets of iPads that include apps selected by elementary Innovation PLCs
- Anna Nolin named Assistant Superintendent of Teaching, Learning and Innovation
- Grace Magley hired as a supervisor of Online Learning. A new position for that evolved into Director of Digital Learning the following year

2014

- Boston College publishes its 1:1 Laptop Study, evaluating students’ and teachers’ use of technology
- Deepening of instructional practices to support blended, personalized instruction
- iPads distributed in grades K-7 with station and lab rotations
- First Natick Innovation and Learning Summit (NILS), providing PD for all district staff in technology and personalized learning
- Natick Tech Day re-branded as the first annual Natick Innovation and Learning Summit and Wellness Conference, a full-day conference with over 100 sessions

2015

- Early exploration of Deeper Learning concept
- Staff and SEPAC use the book, “Getting the Most Out of IEPs: An Educator’s Guide to the Student-Directed Approach” to guide IEP changes
- Co-teaching model implemented for special education classes at high school

2016

- Natick helps to establish MAPLE and joins MAPLE as Catalyst Member
- Hosts the launch of the MAPLE Consortium and the first MAPLE Learning Tour
- Natick explicitly formalizes its commitment to personalized learning for all students by incorporating the term into the district’s public-facing Theory of Action and Vision Statement
- All special education staff receive training in “Self-Determination Learning Model of Instruction (SDLMI)” and “Student-LED IEP” research-based practices
- Building vision and teacher capacity for project-based learning (PBL)
- Blended learning scaled to grades 3-12
- Christina Maryland named to new position of Grants, Research & Communications Specialist
2017
• Every teacher PK-12 deepens project-based learning by reinforcing the 6Cs through the implementation of one project-based learning unit
• Develops Master PBL Teachers through coursework
• STEM-STEAM, computational thinking, design thinking pathways PK-12
• Leadership team attends EdLeader21 Conference
• First project-based learning “hackathon”
• Measures impact of project-based learning with Northeastern University’s NeXT Network
• Leadership teams develop profiles of a Natick graduate and refine with stakeholder input; then develop action plans for Profile of a Graduate at the elementary, middle, high school, and district levels
• Jed Stefanowicz named first Innovation Fellow funded by Natick Education Foundation; serves as an innovation coach in the area of digital learning
• Family Engagement Night explores social-emotional learning; SEPAC establishes parent book group in every school to advance SEL understanding
• Design of Natick Personalized Teaching & Learning Framework

2018
• Districtwide meeting on Relationships Matter includes feedback from recent graduates
• Community meetings encourage district to revitalize commitment to personalized learning and to help students become more self-directed
• Principals and teachers develop new classroom observation expectations, assessments, and projects mapped to Profile of a Natick Graduate competencies
• Redesign of senior year and high school internship program, with seniors providing research and input
• Middle school teachers receive evidence-based training on SEL from CASEL
• Third-graders engage in Digital Learning Badge initiative; showcase it at the Statehouse
• Introduces standards-based report card at elementary level

2019
• Pilots the Thrively platform in middle school for Blended, Project-based and Social-Emotional Learning content to support Natick PoG skills
• DigitalCURATE initiative and Learn Platform Impact Reporting
• Deepens project-based and experiential learning focused on student voice and choice
• Takes part in Influence 100—Diversity and Equity Work with the Massachusetts Department of Education
• Pilots capstone course at high school that includes authentic work-based internship
• Elementary teachers receive evidence-based training on SEL from CASEL
• All teachers read a book to deepen understanding of SEL
• Selected as one of ten school districts to participate in the Massachusetts Department of Elementary and Secondary Education Response to Intervention program evaluation pilot

2020
• Opening of new Kennedy Middle School designed around STEM-oriented project-based learning units
In Natick, the districtwide strategic plan is a living document that provides clear direction and accountability for attaining the district’s goals. Through this plan, Natick’s leadership team regularly monitors the progress of its multiple initiatives, including those related to expanding personalized learning. In school year 2018-19, the Natick team incorporated personalized learning into three of the four main goals in its strategic plan. Exhibit B provides a brief description of the progress made in achieving those three goals.

Natick’s strategic plan is reviewed regularly and serves as the district’s roadmap. Educators build their yearly goals from the plan, designated courses of study must align to the plan, and leadership directives and goals are populated with action items specifically cited in the plan. The district leadership team reviews the plan monthly to determine action steps and updates the school committee on its progress in bi-weekly meetings. The district team spends time during summer retreats and state of the union meetings to review and adjust the plan according to the data and feedback collected during the school year.

### Exhibit B: 2018-19 Strategic Plan: Goals and Progress

**Goal 1: Excel in academic achievement and Profile of a Graduate (PoG) competencies for all groups and subgroups of students.** Over the course of the school year, the Natick team worked to identify and develop tools to facilitate community agreement on how to record and measure PoG competencies across academic domains (see page 13 for PoG description). Educator teams also worked to define PoG competencies by grade level and in subject areas and to increase the real-world relevance of this content for students. As they defined competencies, PLCs also revised assessments—revising common growth assessments to reflect the power standards identified by PLCs for each grade and subject area. At the middle and high school levels, PLCs worked to increase real-world applications for learning in all subject areas, devoting at least three units in each full-year course to this purpose.

At the same time, district leaders focused on expanding project-based learning as a way to support PoG competency building and improve academic achievement. In 2018-19, Natick selected tools to support student portfolio and PBL performance assessments. Natick also identified a group of teachers in grades 5-8 to measure student learning by outcomes in terms of achievement (content and skills) and student engagement and agency. The district aimed to survey 100 percent of middle school teachers about their PBL experience in relation to student achievement and engagement/agency.

**Goal 2: Develop a systemic, developmentally appropriate, social-emotional learning (SEL) and healthy living framework for student learning and parent engagement and partnership.** The Natick team worked to identify and develop tools to record and measure competencies across SEL domains (empathy, resilience, initiative and self-direction), beginning with an inventory and asset map to capture what was already being done at each school. The team also administered baseline surveys to measure each school community’s awareness and engagement.

**Goal 3: Establish communication procedures and philosophy that build trust, transparency and engagement with our community.** District leaders conducted focus groups with parents about their communication trends and implemented a new parent engagement process via its website called “Speak Up, Natick!” This communication effort is an essential way to ensure that parents and community stakeholders are part of the conversation about Natick’s innovative changes—such as personalizing learning and the Profile of a Graduate—and serves to build buy-in, at the same time as providing a means for tapping into the hopes and ideas from the community that can help shape ongoing improvements to district initiatives.
Endnotes


12 EdLeader21 is a professional learning community dedicated to helping district and school leaders scale and sustain twenty-first-century education practices systemwide. More information can be found at www.edleader21.com/

13 For more information, see deeperlearning4all.org/


15 Natick Public Schools. (2018). 2018 annual report. Retrieved from drive.google.com/file/d/1wa5-1gpIRCis9j2SyTEsXsfMB1TkpaN/view

16 Thrively is a tool that allows students to customize their learning experience, set goals and track their own progress. Educators and parents can use Thrively to better understand students’ interests and to guide them to build skills and solve real-world problems. More information can be found at www.thrively.com/