



# MIDDLETOWN PERSONALIZES LEARNING TO NARROW ACHIEVEMENT GAPS

*By Doug Mesecar  
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### SUMMARY

**T**he Enlarged City School District of Middletown, New York is showing the nation how to transform a once-struggling district. Proving that good things come in small packages, this economically challenged district is improving on important metrics — for example, 4-year high school graduation rates have increased from 51 to 80 percent over the past nine years. Now aiming to drive achievement and student engagement even higher, Middletown is implementing personalized learning through a comprehensive, phased approach to blended learning to help students meet the demands of New York’s Common Core standards and aligned assessments.

To date in Middletown:

- 91 percent of teachers in the blended learning program report they are more effective.
- Three-fourths of students in Middletown’s blended learning program outperform their peers in non-blended classrooms in math.
- Students improved reading achievement by 136 percent overall on the NWEA MAP assessment.
- 89 percent of teachers report an increase in student engagement.

*Details follow.*

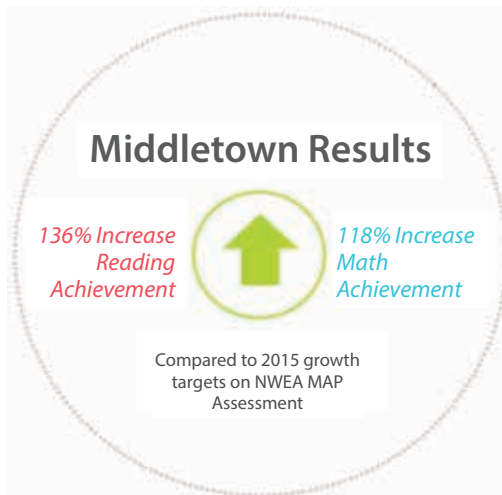
## BUILDING TOWARD THE FUTURE

Relatively small, but with significant poverty — 76 percent of students qualify for free and reduced price lunch — and growing diversity, Middletown, New York had struggled for years with poor performance and declining enrollment. As it became a majority minority district, with a growing number of Latino students, Middletown was graduating about half its students, with assessment scores among the lowest in the state.

*“If we are serious about college and career readiness, we must be committed to doing whatever it takes to support each student.”*

*– Dr. Ken Eastwood, Middletown Superintendent*

The increasingly diverse array of students in Middletown’s — and the nation’s — classrooms reflect a changing society amidst a more globally competitive world. In an era of increasingly challenging standards, higher expectations for all, and greater distractions to learning, educators are faced with a very difficult dilemma in consistently and appropriately meeting the needs of all learners.



Superintendent Dr. Ken Eastwood knew he needed a strategy to address the huge spread of individual student needs in a scalable and systematic way. Personalized learning, enabled by the use of technology in a blended learning environment, became the clear path forward.

From the start, Superintendent Eastwood and Middletown educators took a deliberate, but aggressive, approach to blended learning implementation. Through a carefully-planned, multi-year process to design the best personalized learning to meet his students’

specific educational needs, Eastwood built a

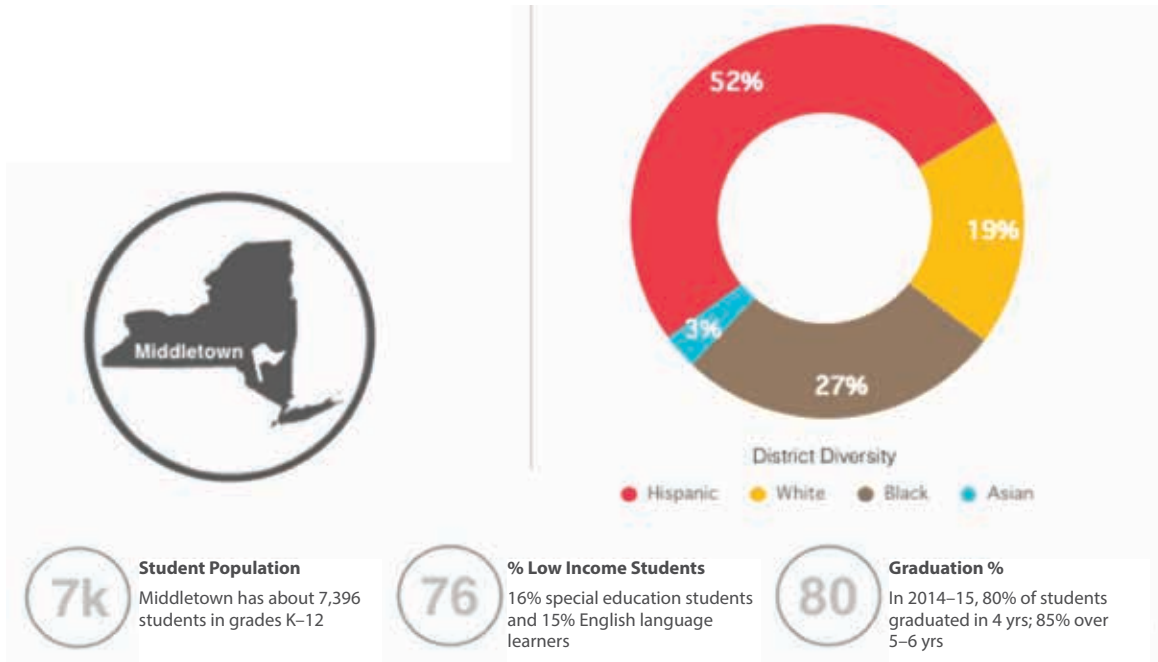
culture of innovation and personalization that met teachers where they were by allowing teachers to ‘opt-in’ to the personalized learning strategy, rather than forcing an initiative that was not fully understood or accepted.

Having already embarked on a multi-layered district turnaround to improve academic outcomes and reverse declining student and parent engagement, Middletown decided to seek federal funding through the U.S. Department of Education’s Race to the Top District (RTT-D) grant to support existing efforts, as well as turbocharge their nascent personalized learning transition.

## M Enlarged City School District of Middletown

*High expectations are meaningless without rich opportunities*

Middletown is nestled 65 miles northwest of New York City. It is one of 16 districts to win a federal Race to the Top grant in 2012 to fund comprehensive technology-integrated personalized learning & innovative professional development using virtual simulation to prepare new & aspiring teachers.



To the surprise of nearly everyone, the district won millions in funding from the federal program in December 2012. Armed with these additional resources, Middletown accelerated their design and implementation of personalized learning, including using blended learning in a station rotation model for reading and math. What began as a small scale, opt-in program for K-5 classrooms in the Fall of 2013, has transformed into a district-wide initiative that includes all teachers in the district's five K-8 schools, with the high school coming on-board next year.

Students at elementary schools using blended learning in the district have shown greater growth than district students in traditional classrooms in both reading and math, based on Northwest Evaluation Association's (NWEA) Measures of Academic Progress (MAP) scores.

## LAYERING INNOVATION TO BUILD A TRANSFORMATIONAL STRATEGY

Using participatory innovation, Superintendent Eastwood, principals, teachers, students and parents are all involved in layering Middletown's approach, where personalized blended learning fits within a larger transformational strategy:

- Professional Development: In a 3-year roll-out, over 200 teachers have been trained to personalize learning. New and aspiring teachers are on-boarded using state-of-the-art virtual simulation.
- Contractual Agreement: Superintendent Eastwood and his leadership team negotiated a teacher incentive stipend with the teachers' union to accelerate teacher engagement with personalized learning models and use of digital resources in the classroom.
- Phased Rollout of Personalized and Blended Learning:
  - In the Fall of 2013, Middletown started its station rotation model for English Language Arts (ELA) and math using an 'opt-in' approach; teachers in 33 K–5 classrooms signed up;
  - The district increased its use of blended learning during the 2014–15 school year and implemented blended learning in 197 K–8 classrooms;
  - This year (2015–16), all K-8 classrooms across five buildings are implementing personalized and blended learning;
  - The district is designing a “flipped classroom” model of blended learning for the high school starting in the 2016–17 school year, when the high school will also move to project-based learning.
- Personalized and Blended Learning:
  - Station rotation model using what the district calls “classroom flex rotation”;The district's elementary school students have two 75-minute blocks — one in reading and one in math — every day;

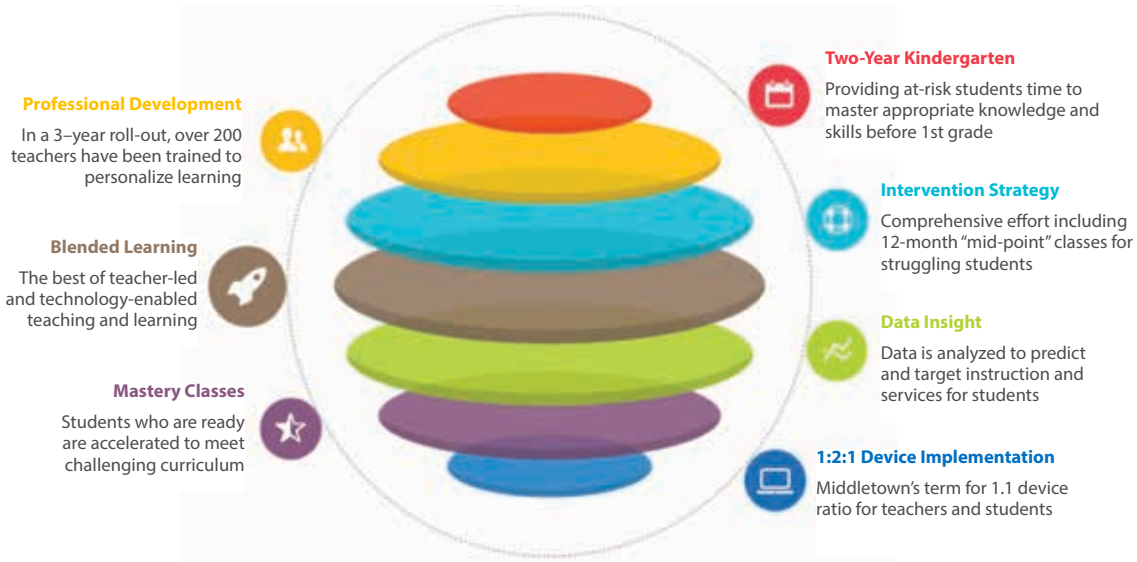
### ***What does it mean to Personalize Learning?***

*Personalized learning (borrowing from the Next Generation Learning Challenge) takes place in flexible learning environments, where learning is based on personal learner profiles and paths, and students move on when they demonstrate mastery. Blended learning is a key way to personalize learning.*

### ***What is Blended Learning?***

*The new Elementary and Secondary Education Act (ESEA) reauthorization defines blended learning as a formal education program that leverages both technology-based and face-to-face instructional approaches that include an element of online or digital learning, combined with supervised learning time and student-led learning, in which the elements are connected to provide an integrated learning experience, and in which students are provided some control over time, path, or pace.*

## Middletown's Personalized Learning Strategy



- Partnership with Education Elements, one of the nation's leading personalized and blended learning design and implementation consultancies;
  - Adaptive digital content via a roster of high quality, curated digital content providers;
  - All teachers and students have Chromebooks (and/or iPads) in a fully wireless and cloud-based infrastructure in what the district calls a 1:2:1 device ratio.
- Mastery Classes: Students who are ready are accelerated to more challenging curriculum.
- Two Year Kindergarten: Provides at-risk students time to master appropriate knowledge and skills before 1st grade.
- Intervention Strategies: Comprehensive effort including 12-month "mid-point" classes for struggling students and ending social promotion.
- "Big Data": Predictive analytics to target instruction for all students at all levels of mastery.

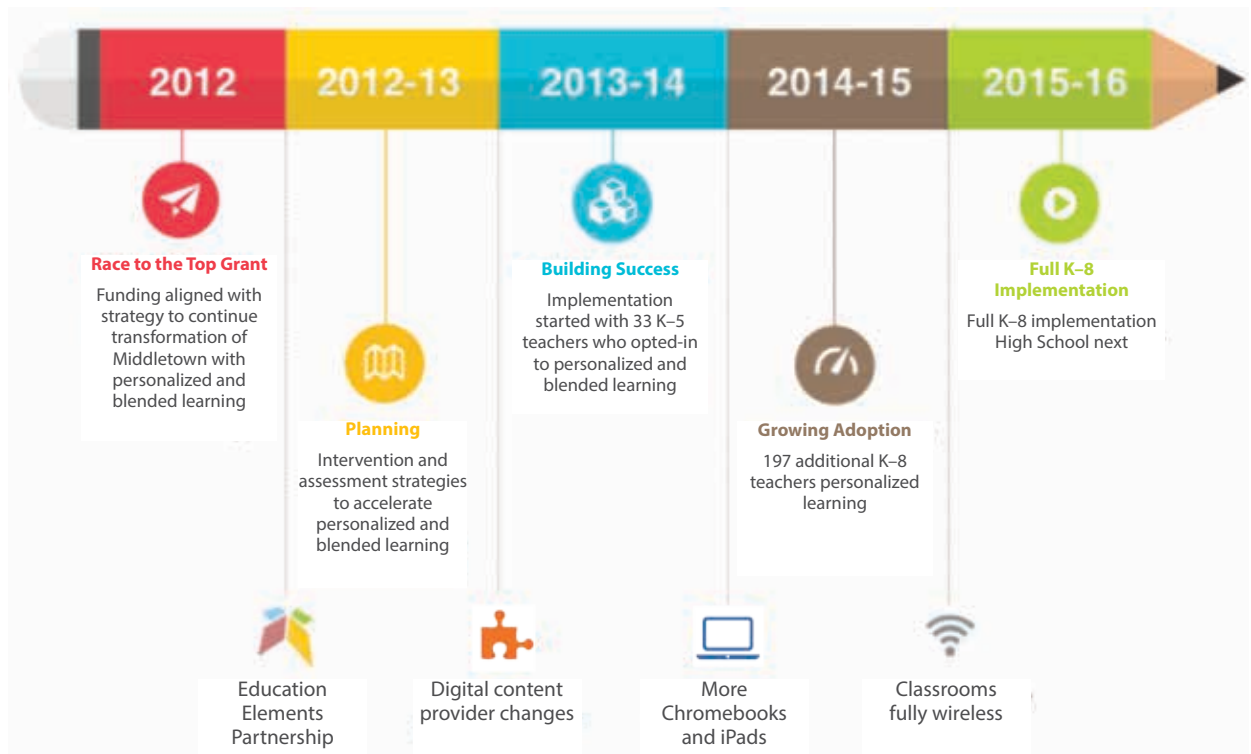
## TIMELINE TO PERSONALIZE

Education Elements helped the district create a three-year implementation plan, starting with elementary schools and the 33 teachers who opted-in to the new blended learning model.

Middletown's implementation model has a two-year voluntary opt-in period, followed by a year of risk-free experience during which the new implementation does not affect teachers' evaluations. Now firmly part of the district's culture, the teachers are buying-in. Over the summer, Middletown finished its two-year opt-in period for blended learning. Ninety-two percent of teachers opted-in. The remaining 8 percent were trained in October.

### Personalized & Blended Learning Strategy Timeline

From Race to the Top Grant Award to Full Implementation in Grades K–8



## BLENDED LEARNING PROVIDES SCALE TO PERSONALIZATION

Personalized learning can happen without the use of blended learning technology, but it takes technology to do it effectively, efficiently and consistently. Blended learning is a means to personalize learning, but academic and engagement goals will not be met if blended learning becomes synonymous with just adding technology to the classroom.

Middletown is creating classrooms that are technology-integrated, forward thinking, data-driven, and highly personalized learning environments. The district's goal for personalized learning is to make teaching and learning more effective and efficient.

Rather than being constrained by a 'wait to fail' model where students only get more attention and personalization as they fail to succeed, personalized learning cuts through the lost time and angst of students failing before they get the opportunity for success. The teacher is the most important factor in the student experience and achieving results, but technology tools can help teachers reach and teach more students successfully.

Superintendent Eastwood believes blended learning helps teachers better meet the needs of students. "Personalized learning," he says, "requires blended learning, which allows differentiation to move from the small group level down to the level of the individual child; that is what makes a personalized learning environment."

## HIGHLIGHTS OF THE BLENDED LEARNING MODEL



*Typical elementary classroom with students at various stations.*

The district's blended model is immediately recognizable in its use of a rotational model, 1:1 wireless devices (primarily Chromebooks), and provision of self-paced digital content and rich face-to-face learning experiences. Middletown brings a nuanced approach to innovation in its use of adaptive assessment, multiple, strategically-selected, adaptive digital content (commercial and self-created), combined with a robust, comprehensive intervention model that leverages predictive analytics from "big data."



Every day, K-5 students station rotate during two 75-minute blocks of ELA and math instruction with a teacher who specializes in each content area, rather than the typical approach in elementary schools of generalist teachers. While at the digital content station, students work with software that adapts to their specific learning needs — including remediation or acceleration.

During these blocks, the teachers use data on student learning to effectively personalize instruction and dynamically group students based on progress and understanding. In this model there are three stations beyond any whole class instruction: one group of students is with the teacher receiving direct instruction, one group is working collaboratively together, and one group is working with adaptive digital content.

Middletown has coined the term “classroom flex rotation” to describe its model because teachers use data from student learning needs, the adaptive digital content, and their knowledge of the content area to determine the rotations each day. The degree of classroom organization and behavior management to enable this dynamic model is planned and impressive, ensuring no time is lost to confusion or poor transitions.

### ‘Classroom Flex Rotation’ Blended Model



Middletown provides teachers with different station rotation blended model designs to choose from, while allowing teachers to make iterations on this as their preference dictates. In this way, Middletown's teachers can choose the approach that best fits their instructional styles and needs.

When students are working in collaborative small groups, they are developing skills in working together with others, applying understanding to authentic and new contexts. Collaboration and communication are critical components to the knowledge-based economy, and can be enabled through group decision-making, problem solving and researching, thereby embedding and applying knowledge and skills.

A strength of Middletown's blended learning approach is that teachers increase their opportunities to work with small groups of students. Teaching in small groups enables educators to address the different needs of individual students and better engage them using prior knowledge and data-driven analysis of depth of understanding. It also gives teachers more time to connect on a personal level with students and build relationships.

*"Individuals have belief systems. So do school districts. It's important to implement edtech initiatives in a way that fits your district's beliefs and educational culture."*

*– Dr. Ken Eastwood, Middletown Superintendent*

With the station-rotation model of blended learning, elementary teachers often don't have to completely revamp their approach to the classroom because many already use stations. Teachers can include digital content as an additional station or as a replacement for an existing station. Teachers are able to take advantage of the data from the digital content to individualize student learning experiences.

The district provides bi-monthly professional development sessions to teachers on how to effectively use small group instruction and digital content, enabling teachers to feel comfortable with the blended learning approach they are using with their students. An area of focus for the district is improving the fidelity of their classroom flex rotation blended learning model.

Identifying, vetting, and selecting the right adaptive digital content providers is a complicated process, with important decisions necessary to ensure a successful implementation. Principal Amy Creeden worked closely with teachers, administrators and Education Elements to ensure the process was consistent with the district's overall strategy, collaborative, and conducive to promoting learning gains with the district's student population. The pedagogy and design of adaptive digital content must be complimentary to the pedagogy and design of in-person classroom lessons and other collaborative small group work.

## Major Components of Personalized & Blended Learning Model



In line with the district's phased implementation of personalized blended learning, rather than expecting teachers to learn multiple online providers offered all at once, teachers were able to become proficient with a single provider before using others. The district offered multiple after-school professional development sessions that included in-depth training on providers throughout the school year to support teachers as they implemented additional digital content.

Since launching its blended program, the district has used a variety of digital content providers—and it continues to evaluate the effectiveness of its content providers and change products as needed. The district is using Lexia Reading, Achieve3000, i-Ready, DreamBox Learning, TenMarks Math, myON Reader, IXL Learning and Google Classroom.

Based on a thorough teacher survey, more than 80 percent of blended learning teachers using TenMarks, i-Ready Math, i-Ready ELA, and Lexia, found these providers' progress data valuable to their practice. Teachers also use their own generated content, as well as open educational resources like Gooru, Knowmia, and Khan Academy.

The district did not start out with a 1:1 device ratio, but now, all students have access to a Chromebook during the school day and can access digital content through the Highlight platform provided by Education Elements, which provides students, teachers and administrators with a single entry point to all of their selected digital content, while providing detailed performance data that users need to guide instruction and learning.

## NEXT GEN TEACHER SUPPORT & DEVELOPMENT

Middletown's blended learning program is student centered and and teacher directed. The district has sought the ongoing feedback of teachers to continually customize and enhance professional development and support for teachers.

*"We definitely do not have a one-size-fits-all philosophy in our district. It is our belief that the resources, materials, and partners we work with need to accommodate the individual needs of our district, teachers, and students."*

*– Principal Amy Creeden*

At the elementary school level, the district has trained K-5 teachers to become instructional specialists who focus on either ELA or math, rather than teaching all core subjects to a single class. The district is immersing teachers in intensive professional development focused on their subject specialty. As a result, teachers will have a deeper understanding and greater mastery of pedagogy for their area of specialty.

This switch to specialization helps teachers better individualize instruction for their students because of their deeper content knowledge in one subject and better understanding of student needs in that subject.

For aspiring or new teachers, Middletown is developing a virtual simulation program that exposes them to real-life scenarios they might encounter in the classroom. The program devotes particular attention to specific challenges facing Middletown, especially the needs of its diverse and low-income student population.

How teachers respond to the simulation shows the district the teacher's strengths and weaknesses and drives professional development recommendations. Once created, the district plans to provide the simulation to other districts and teacher colleges in New York state.

The district's transformation to blended learning continues to benefit from Education Elements' team of educators and former administrators, who gathered teacher input on pedagogical and classroom management through a series of surveys, collaborative workshops and professional development sessions. It was crucial that the expertise and experience of the Middletown teachers were reflected in the final blended learning implementation and selection of digital content.

Implementation of district instructional initiatives provide for a 2-year engagement on a voluntary basis and then a mandatory engagement in the 3rd year for holdouts. For elementary schools, 92 percent of the teachers participated during the 2-year voluntary time. In 2015-16, the district required the final 8 percent of teachers that did not engage in the district's two-year implementation of the elementary blended learning initiative to

now participate in dedicated professional development for the blended learning program in the Fall of 2015.

The results of this phased approach to implementation shows in the perspectives of those most responsible for student success — Middletown’s teachers. In a recent survey, Middletown found that overall, teachers feel that blended learning is effective in their classrooms. Additional results are summarized in the graphic below.

### Blended Learning Teacher Survey Results



Middletown and Education Elements surveyed teachers on their views and practices related to personalizing and blending learning in May 2015.

While these results are strong overall, the district is constantly looking to improve its support of teachers, particularly in using data (e.g., through their excellent Technology Teachers on Special Assignment and with Education Elements on the collection and reporting of data in usable ways for teachers).

Assistant Superintendent of Schools Richard Del Moro was previously quoted, “Blended learning helps us expand the role of teachers and get down to the students’ strengths and deficiencies on a very one-to-one level to meet these new expectations and standards.” Middletown’s blended learning model addresses some of the major challenges teachers face with teaching using the rigorous Common Core standards.

## PERSONALIZED LEARNING IS SHOWING RESULTS

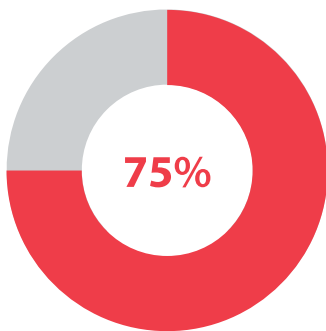
Given that “classroom teachers face a widening variance of student knowledge and skills. Technology has to help teachers effectively address this wider distribution more efficiently,” as described by Superintendent Eastwood. The district’s personalized learning strategy needed to address this growing variance while producing results.

In Middletown, the early returns indicate the district’s blended learning initiative is boosting student achievement.

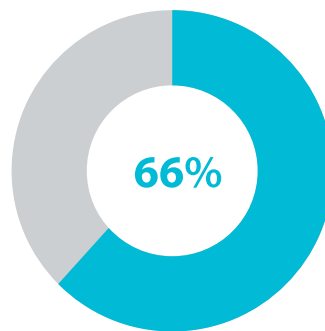
When teachers and administrators received their results on the 2014 NWEA MAP test, they saw the effectiveness of blended learning in their classrooms. In 2015, the results accelerated. For ELA, in every K-5 grade, students in blended classrooms showed greater growth than their non-blended peers, with average reading growth scores of students in blended classrooms 19 percent higher. In math, in all K-5 grades except for second, students in blended classrooms showed more growth than their non-blended peers, with average math growth scores of students in blended classrooms 17 percent higher.

According to other district data, in reading, two-thirds of students in blended learning classrooms do better than students in non-blended classrooms; in math, three-fourths of students are performing better in blended classrooms. See “Sources for Further Information” at the conclusion of this report.

*Middletown’s Blended Learning Teacher Survey found that 74 percent of teachers believe that the majority of their students can articulate why they are working on specific digital content.*



In Math, 3/4 of students in blending learning classrooms do better than their non-blended peers.  
District reported data.



In Reading, 2/3 of students in blending learning classrooms do better than their non-blended peers.  
District reported data.

The district's blended learning effort in its middle schools is in a developmental stage of implementation as compared to elementary schools. The district is focusing more this year on how to effectively implement its rotational model in the context of multiple teachers teaching multiple classes of students and where students move from room-to-room for different subjects. Integrating across this variety of movement, instruction, and teachers is a work in progress, and therefore the growth scores in blended learning classrooms have not yet reached the same levels as those in elementary grades.

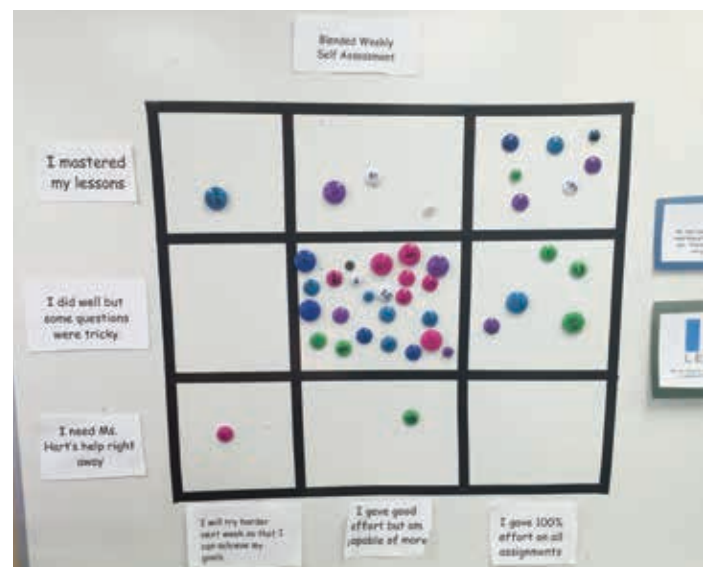
Nationally, the results for personalized learning using a blended approach are also promising. A recent report from the RAND Corporation found that, "The longer students experience personalized learning practices, the greater their growth in achievement." The November 2015 report, entitled *Continued Progress: Promising Evidence on Personalized Learning*, is an important contribution to understanding whether personalized learning is producing results. The report also found that:

- Growth continued to accelerate in schools with three years of implementation.
- Schools were developing non-academic skills in students.
- Students were more likely to experience complex, student-centered instruction in English Language Arts and in math.

Scalable personalized learning models are new, with evolving pedagogies and support. This poses a challenge to researchers seeking to establish best practices with definitive efficacy research. Worthy contributions to the research base come from SRI International, the Michael and Susan Dell Foundation, and the Christensen Institute, which look at schools and districts implementing personalized and blended learning.

## PARTICIPATORY INNOVATION AND MANAGING CHANGE

Concrete examples of how Superintendent Eastwood and Middletown are including participants in innovation and managing change include the use of a phased, opt-in approach to introducing deep personal learning through blended learning; managing the adaptive digital content curation and adoption process; the move from a wired to a fully wireless infrastructure and the related change in the technology



An example of teacher designed student self-assessment activity.

and devices used; and in a sure sign of the success of Middletown's change management and overall strategy, the transition of teacher-generated content to a different platform over the course of last summer.

Borrowed from congruent ideas in social sector reform and business research and development participatory innovation attempts to scaffold 'ordinary' people in their ability to contribute to innovation, rather than just relying on 'lead' users with an extreme capability. A participatory innovation project takes people's practices and needs as a starting point to generate new behaviors and tactics. "Innovation is when many people change their practices," said Hiroshi Tamura, former director of i.school, University of Tokyo.

Middletown exemplifies this approach, which was developed through an ongoing collaboration between teachers and students and administrators and leaders. Participatory innovation is more inclusive and contextually relevant than other strategies that may be top-down or externally driven.

It is best explained by Amy Creeden, Principal of Maple Hill Elementary and RTT-D grant leader, "We were strategic about our thinking — we brought teachers into all phases of the design and implementation process. Teachers were on the initial readiness assessment team, they had true voice in the content curation process, and tremendous autonomy to create "their" model, provided that it met our framework. It was because of our strategy that they were highly engaged throughout the entire process."

The inspiration to actively involve so many participants in Middletown's transformation requires a catalyst, as well as significant management. Superintendent Eastwood is both the catalyst for change, as well as the chief change manager. In his words, "I help everyone,



*Blended Learning in 1st Grade Classroom*

but especially teachers, work as part of a system. As a systems thinker, I look for the 'functions' and 'dysfunctions' in the system that need to be enhanced or removed so the organization can realize its goals."

Borrowing from Peter Senge, pioneer of the "Learning Organization" concept, John Kotter, Harvard Business School professor, and his own original work, Eastwood knows that the change process takes time and requires a series of steps that cannot be skipped without risking failure. These steps include:



- Creating urgency: Start a long range plan/goal with the strategic urgency/crisis and strategically build in transition to sustainability.
- Helping employees work as part of a system: Take away the fragmented, “one teacher behind a closed door” current way of working and create an environment in which teams understand the whole system, and in which innovations can occur and stick. People at all levels must feel they have the power to make a difference (Participatory Innovation).
- Creating a safe environment for innovation and change: Find and support principals who will create a learning environment for innovative teachers.
- Building a shared vision that creates change on multiple levels: Schools with significant, lasting innovations have come out of multiple groups working together to implement an easily understood and remembered vision that includes values that are central to the change.
- Removing obstacles: A good change agent has to know when its time to stop talking and go to work. Leaders must constantly take action to address “reasonable problems” that keep participants from engaging.
- Provide time for change to take hold: Building a shared vision isn’t about writing a vision statement. Over time, the change transforms people’s beliefs, views, skills and capabilities.
- Build on the change: Too often, organizations declare victory too early—as soon as they see early evidence of clear performance improvements—killing the momentum for all the change needed. Change needs to become part of the culture first, or the transformations that had been introduced will fade away.
- Anchor the changes in organization culture: The change must become part of the core processes and values in and throughout an organization, and must continue to maintain leaders’ support. Staff and leadership must communicate how the changes have improved the organization, and must consistently demonstrate the new approach.

## THE END OF THE BEGINNING

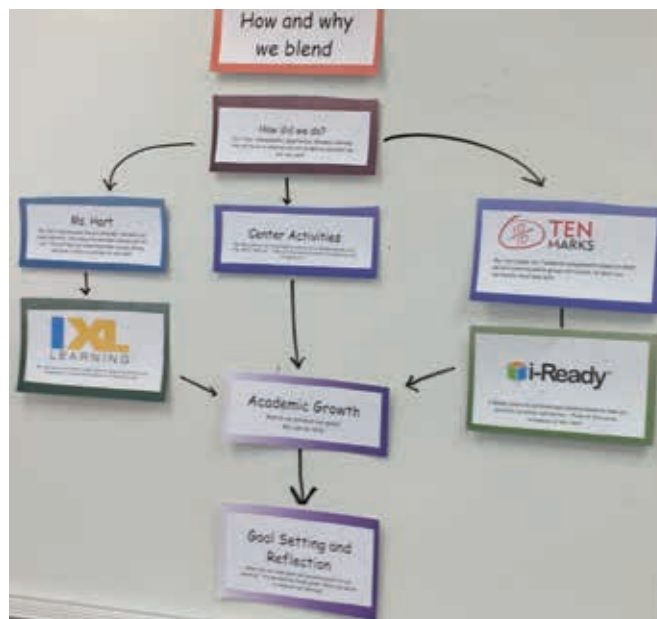
Through their deliberate, structured, and thoughtful implementation of blended learning to personalize instruction for all students in the district, Dr. Eastwood has ensured that teachers are provided the professional development, support, and resources necessary to meet the needs of every student and accelerate achievement.

Superintendent Eastwood, Principal Amy Creeden, and all of Middletown's administrators and teachers are the first to acknowledge that they have much work still to do. They celebrate the initial success they have had, but are clearly not satisfied with the results, and have a drive to share their experiences with others.

The district has been recognized by Digital Promise's League of Innovative Schools, while Eastwood and Creeden mentor aspiring transformational personalized learning superintendents through the Lexington Education Leadership Award Fellowship, all because of their thoughtful

perspective on how to best personalize instruction through blended learning by focusing on teacher pedagogy first. They show how achieving this goal requires an actionable plan, strong leadership, empowered teaching, and partners that specialize in achieving remarkable learning gains with a wide range of students.

"Making learning personal for each student is the only way to close the gap for at-risk students while stretching the goals for the higher ability students," said Superintendent Ken Eastwood. "Through personalized learning, we really can meet instructional goals for ALL students."



*Teacher explanation to students of how and why they blend learning.*

## SOURCES FOR FURTHER INFORMATION

Middletown Personalized Learning Impact Report - Education Elements  
<http://www.edelements.com/personalized-learning-impact-report-2014-2015>

Enlarged City School District of Middletown Demonstrates Students in Blended Classrooms Outperform Students in Non-Blended Classrooms For Second Year in a Row  
<http://www.prweb.com/releases/2015/10/prweb13047383.htm>

## ABOUT THE AUTHOR



Lexington Institute Adjunct Scholar Doug Mesecar has served as a senior official at the U.S. Department of Education, as well as with leading education companies and in Congress. Most recently, Doug served as Vice President for Contract Programs and SylvanSync™ at Sylvan Learning. At the U.S. Department of Education, Doug served in a number of senior roles: Assistant Deputy Secretary of the Office of Innovation and Improvement, Acting Assistant Secretary of the Office of Planning, Evaluation and Policy Development, and Deputy Chief of Staff of the Department. In Congress, Doug was a senior professional staff member on the House Education and Workforce Committee.



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