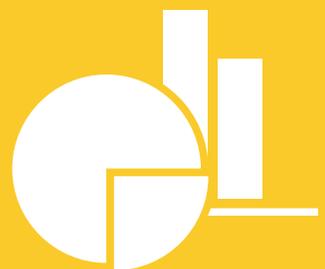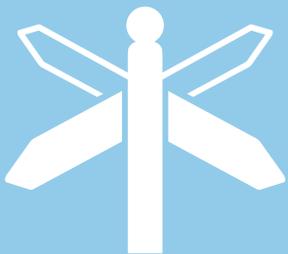# The Core Four of Personalized Learning:
The Elements You Need to Succeed

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Executive Summary

As the prevalence of personalized learning increases across the country, educators are considering how to ensure they succeed with their personalized learning implementations. Education Elements has developed the Core Four Elements of Personalized Learning to guide these educators as they seek to infuse personalized learning into their classrooms and schools.

These core elements are:

- Flexible Content and Tools
- Targeted Instruction
- Data Driven Decisions
- Student Reflection and Ownership

By using the Core Four, administrators will be able to clearly communicate to stakeholders the specific ways that instruction will change in a personalized learning environment.

The purpose of this white paper is to provide districts with an initial guide as they consider how to implement the Core Four into their schools and classrooms. This includes detailed descriptions of the Core Four, helpful tips to consider, and initial strategies to begin implementing each element. Finally, the white paper also includes artifacts from school districts across the country who have utilized the Core Four including pictures and videos.

This paper has been recently updated to reflect our evolved understanding of what success looks like in a personalized learning environment. We pay close attention to trends and to what we hear and see in the field and will continue to make updates when necessary to push the field forward. We welcome your feedback at any time.

It is our hope that using the Core Four will support you and your colleagues as you carefully consider how to implement personalized learning for your students.

Introduction

Across the country, personalized learning is increasingly recognized as a promising strategy to boost student academic growth by meeting the individual needs of students. While no established definition of personalized learning exists, many definitions envelop general principles that include customization, student agency, and flexibility of instruction.

iNACOL: Personalized learning is tailoring learning for each student's strengths, needs and interests—including enabling student voice and choice in what, how, when, and where they learn—to provide flexibility and supports to ensure mastery at the highest standards possible.[1]

National Center for Learning Disabilities: Personalized learning allows all children to receive a customized learning experience. Students learn at their own pace with structure and support in challenging areas. Learning aligns with interests, needs and skills, and takes place in an engaging environment where students gain a better understanding of their strengths.[2]

ISTE: [Personalized] learning that is tailored to the preferences and interests of various learners, as well as instruction that is paced to a student's unique needs.[3]

Bill & Melinda Gates Foundation: Personalized learning has four key attributes: learner profiles, personal learning paths, competency-based progression, and flexible learning environments.[4]

In many ways, the principles of personalized learning stand in stark contrast with traditional classrooms: students move at their own pace, pursue learning that aligns with their individual interests, and set goals to reach their potential. While the sheer number of districts starting to consider how to re-create classroom environments to include these principles is promising, the shift to personalized learning leaves many educators asking a very important question: *What does a successful implementation of personalized learning actually look like?*

Since 2010 Education Elements has supported more than 100 districts, 300 schools, and 300,000 students with personalized learning implementations. Through our work with schools and districts across the country, we established the Core Four of Personalized Learning: four key elements that we believe ensure that personalized learning is implemented with high fidelity and success. By leveraging these key elements, school and district leaders can clearly communicate what a shift to personalized learning will entail. In addition, teachers can easily understand the expectations that school and district leaders hold for the implementation of personalized learning in their classrooms.

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[1]iNACOL, What is Personalized Learning? http://www.inacol.org/news/what-is-personalized-learning/

[2]National Center for Students with Learning Disabilities, Personalized Learning: Meeting the Needs of Students with Disabilities, http://www.ncld.org/archives/reports-and-studies/personalizedlearning

[3]ISTE, Personalized vs. Differentiated vs. Individualized Learning, https://www.iste.org/explore/articledetail?articleid=124

[4]Bill & Melinda Gates Foundation, Continued Progress: Promising Evidence on Personalized Learning, http://k12education.gatesfoundation.org/wp-content/uploads/2015/11/Gates-ContinuedProgress-Nov13.pdf
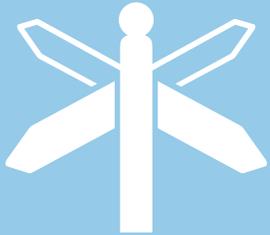
THE CORE FOUR
ELEMENTS OF
PERSONALIZED LEARNING

Flexible Content and Tools

Instructional materials allow for differentiated path, pace, and performance tasks

Targeted Instruction

Instruction aligns to specific student needs and learning goals

Student Reflection and Ownership

Ongoing student reflection promotes ownership of learning

Data Driven Decisions

Frequent data collection informs instructional decisions and groupings

Flexible Content and Tools

Instructional materials allow for differentiated path, pace, and performance tasks

Teachers understand how to use foundational, adaptive, and highly customizable content and tools in order to differentiate the path, pace, and/or performance tasks of learning. Where digital content and tools are used they do not replace the teacher; rather, they work alongside the teacher to better support students' needs by providing remediation, practice, extension, and/or a variety of ways to demonstrate knowledge authentically.

Targeted Instruction

Instruction is aligned to specific student needs and learning goals

Using data, teachers identify specific student needs and provide instruction to meet those needs. Teachers employ small group, 1-1, strategy group, or other targeted instruction to create a learning environment where all individual needs can be met.

Student Reflection and Ownership

Ongoing student reflection promotes ownership of learning

Students have frequent opportunities to reflect on what they are learning and their success in learning. Students make goals to improve their learning outcomes and have opportunities to make authentic choices for their learning. Students have authentic choice and ownership over their learning.

Data Driven Decisions

Frequent data collection informs instructional decisions and groupings

Teachers use data to inform instructional decisions in their classrooms. Students are provided with opportunities to review their own data and make learning decisions based on that data.

Rather than approach each of the Core Four elements like items on a checklist, educators should consider the implementation of each element as a spectrum (see spectrums of each Core Four element in the individual sections below). Teachers may begin as novices in a specific area; but gain expertise through development and practice. For example, a teacher may begin the integration of Student Reflection and Ownership by simply teaching students about the benefits of reflection. As the skills of the teacher and students advance, teachers may expect students to develop their own learning goals or even create their own daily priorities for learning.

Significant time and training will be necessary to properly incorporate all of the Core Four elements in a meaningful way. While all of the Core Four elements should be present, we encourage individual schools within a district to focus on one Core Four element at a time in order to develop expertise. In this way, school and district leaders can center professional development on the specific skills necessary to build competence in a specific area. Educators can begin to implement aspects of the Core Four in small ways (changing a lesson plan, dedicating time to student reflection, evaluating digital tools) that build on what the school or district is already doing. As a foundation is established, educators can deepen their practice within and across Core Four areas to develop expertise in personalized learning.

Flexible Content and Tools

GETTING STARTED

- Teacher selects 1-2 tools or sources of content to meet student needs and learning objectives for the year.
- Teacher establishes routines for students to engage with content and tools, from library/media lab procedures to individual instructions for accessing online platforms.
- Teacher has adequate access to devices and internet bandwidth to take advantage of online content and tools.

GOING DEEPER

- Teacher assigns students to review specific content or use specific tools based on student need.
- Teacher aligns the use of multiple online and offline resources to provide an integrated experience for students.
- Teacher uses student data to inform and modify content options.

ALL IN

- Students understand the role of various types of content and tools in meeting learning goals
- Teacher frequently adjusts content and tools for students according to unit objectives, student needs, and interests.
- Teacher uses multiple tools to facilitate student collaboration and application of knowledge
- The use of flexible content and tools has become an integral part of instruction to boost student growth in various ways (remediation, practice, introduction to new material, acceleration, etc.).

In personalized learning classrooms, it is critical to develop an approach to content informed by student needs and interests and guided by overall goals and objectives (for more on curriculum and content selection, see this EE Whitepaper Series).

With access to flexible content and tools teachers can be responsive practitioners who differentiate the path, pace, and performance tasks of learning for diverse groups of students.

Flexible Content and Tools

Instructional materials allow for a differentiated path, pace, and performance tasks

Varying instructional materials…

Foundational	Adaptive	Highly Customizable

…allows for differentiation

Path	Pace	Performance Task

What does it mean to have flexible content and tools?

Developing a flexible approach to using content and tools might involve mixing three different types of instructional materials: those that are foundational, adaptive, and highly customizable. In personalized learning classrooms, you may find all three types integrated into a cohesive experience. For example, foundational content, such as a textbook or online class, provides a core set of concepts and exercises guaranteed to all students; adaptive content can offer practice opportunities at an appropriate level of challenge; and highly customizable content and tools can give teachers the opportunity to author and curate original content, while also giving students new platforms for collaboration and demonstration of knowledge. A mix of flexible content and tools may arise through purchasing from traditional publishers and vendors, curation of Open Education Resources (OERs), and/or original content developed by teachers and district staff members.

Types of Content	Description and Examples	Degree of Flexibility
Foundational content	Foundational content typically provides the "backbone" of a grade level course and comes in the form of a textbook or online set of lessons with the same experiences and expectations for all students; it is often considered the "guaranteed and viable curriculum" that should be provided to all students. While the pace at which students experience foundational content can vary, learning objectives and resources that stem from Foundational Content are largely fixed.	Low
Adaptive content	Adaptive content is typically delivered in an online experience through providers that adjust the learning pathway and pace at which students engage with material. The content may shift dynamically in response to student performance, varying the level of challenge appropriately. For example, an adaptive content provider might increase the reading level of content for students whose reading levels are higher than their current grade level determination.	Medium
Highly customizable content and tools	Highly customizable content is typically curated by teachers and can allow for a differentiated path and pace for students: for example, a teacher may take background knowledge and/or interests into account in setting up a customized playlist or reading list for students researching a particular topic. Highly customizable tools can also be used to allow students to demonstrate knowledge in a variety of ways: for example, a teacher might take advantage of video conferencing, online document collaboration, or other tools that allow enable application of key skills and concepts.	Varies from low to high depending on user input

Why use flexible content and tools in the classroom?

The shift towards a more diverse set of instructional resources runs in parallel to major shifts in the ability of students and teachers to seek out information, networks, and learning experiences beyond school walls. Personalized learning teachers take advantage of this change by creating a flexible content mix that caters to diverse groups of learners and allows them to synthesize and evaluate information through tools that promote new forms of collaboration and expression.

Additionally, teachers may use flexible content and tools to challenge traditional notions of content delivery in isolated core subjects - interdisciplinary learning experiences that require complex thinking and performance tasks are often enabled by the ability of teachers and students to access diverse content options, collaborate to make meaning of findings, and express knowledge gained in more authentic ways. Some examples of what this might look like are featured in the table below.

Flexible Content in Interdisciplinary Units	
ELA and Social Studies	An English and Social Studies teacher are working on exploring multiple perspectives through informational text, comparing and contrasting memoirs, journals and biographies of key historical figures during a critical period in history. Working with a school librarian, the teachers identify a set of readings and other background materials that give students a wide variety of culturally relevant topics to choose from. The materials range from print books to source documents and speeches found online. Students choose which historical figures and topics they will learn about and compare and contrast the multiple interpretations they encounter across sources. All students fulfill a written requirement as a final product during the project, but choice is offered for additional means of demonstrating knowledge (1:1 thesis defense, oral presentation to classmates, video documentary, etc.)
Math and Science	A math and science teacher work together to combine rates and ratios concepts with the study of properties of matter through the lens of cooking. A diagnostic is developed to determine essential math skills needed for the unit, and an adaptive digital content provider (or playlist) is used to give students extra practice where they need support; each student has a customized mathematics pathway that allows him/her to practice essential skills at a flexible pace. The science teacher uses online, open education resources (OER) to find video demonstrations of key concepts that provide background for students who struggle to glean the main ideas from a science textbook. At the end of the unit, students plan a meal for families and friends, detailing the exact quantities of ingredients required, the cooking techniques necessary, and the essential physical and chemical changes that occur during the process they have outlined. Students share their recipes and reflections on an online class blog and offer comments and suggestions to one another.

Whether responding to student needs or building challenging new learning experiences, teachers can use a flexible content approach to differentiate in three ways: by customizing the learning path a student may take, the pace at which he or she learns, and/or the performance task(s) he or she completes to demonstrate understanding. Underlying each of these approaches is the principle of responsiveness - continual engagement with students to understand their needs and interests and adjust the learning environment accordingly.

Differentiated Path

Differentiating the learning path for a student means giving a variety of methods or resources to achieve a learning goal. A learning path might be structured according to needs, as when students require content to help fill in critical knowledge gaps, or interests, as when students can choose from a variety of culturally relevant materials in order to customize the lens with which they approach an area of study.

A teacher might rely on adaptive content to structure a customized path for students to fill in gaps or escalate challenge, build highly customizable content using open education resources (OER) that offer varied perspectives, and rely on foundational content from a textbook to ensure all students engage with critical concepts in cooperative work.

Differentiated Pace

Differentiating the pace of learning means creating conditions in which students can explore and master concepts faster or slower than their peers according to their needs and interests. Traditionally, a teacher sets the pace of instruction and all students must follow the lead on a tight timeline, which can frustrate both struggling and advanced learners. Personalized learning teachers are more fluid with time requirements because the focus often shifts to mastery - this requires flexibility in the content students can access in order to drive their own inquiry into a topic or access resources to review essential skills.

It is important not to equate "slow" learning with "poor" learning. Going at a slower pace may mean that a student gains confidence after experiencing a concept through multiple learning modalities; going at a slower pace also can mean giving students time and resources to learn more deeply about specific topics, knowing eventually they can work faster to ensure alignment with components of the curriculum that are guaranteed for all students .

Finally, the timescale of differentiated pacing can vary according to teacher and student needs as well as school and district structures of support. A personalized learning teacher might work on common concepts with students for the majority of the week, reserving portions of 1-2 class periods for deeper exploration or remediation. On the other hand, if a teacher is confident in students' ability to self-direct their learning for long periods of time, he or she may block off entire class periods or weeks in a unit to help guide different student groups and individuals through learning progressions. Finally, if a school or district has made the commitment to allow students to fully progress through courses at a varied pace, progression through a course may be structured in such a way that when students master all of the requisite content they move on to higher levels (which may be defined as grade levels) in order to maintain appropriate challenge - this last approach may be found in districts that practice competency-based learning.

Differentiated Performance Tasks

A performance tasks provides students the opportunity to apply knowledge in authentic and relevant contexts.[5] Differentiating the requirements or topics of that task allows teachers to customize the learning experience for students. In a traditional classroom, all students might work through the same material in a unit and be asked to demonstrate knowledge in the same way on the same final test. Personalized learning teachers may rely on common systems to gauge student progress, but they also ensure assessment is an opportunity for learning relevant for individual students and connected to the world around them.

Highly customizable content, such as teacher generated playlists or modules built in a learning management system, can provide background knowledge for students to apply learning in new ways. Teachers can curate articles, artifacts, lectures, and/or demonstrations not available in foundational content in an effort to prepare students for real world application of ideas.

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[5]McTighe, Jay. "What is a Peformance Task?" Retrieved from ASCD: http://edge.ascd.org/blogpost/what-is-a-performance-task

As students build knowledge from a diverse set of resources, a set of flexible tools enables new forms of investigation, collaboration, and knowledge demonstration. For example, while investigating a topic, students may video conference with experts in a field, share relevant research they have found, and edit each other's writing in collaborative online documents. As part of evaluating key findings, students may choose to use spreadsheets and graphs, infographics, websites, presentation software, video tools, or some combination thereof in order to communicate what they have learned. While students may take advantage of tools and topics that interest them, effective teachers are sure to communicate common criteria for evaluation and exemplar work products that model a high degree of rigor.

In providing multiple content options for investigation and tools for demonstrating learning, teachers lay the groundwork for authentic pedagogy - instruction, curriculum, and assessment requiring application in real world contexts, consideration of alternative solutions, and use of knowledge similar to that practiced by experts. Such an approach has been associated with increased student achievement on intellectually challenging tasks.[6]

Integrating Digital Content into Instruction

From the use of computers to tablets and smartphones, technology has become increasingly prevalent in K-12 classrooms. Sometimes coupled with this increase is the belief that technology in classrooms will directly lead to a transformation of instruction. Leaders may face disappointment and disillusionment, however, when this transformation does not automatically occur. Several factors lead to this failure: lack of quality training or support, no clear vision for how technology will change instruction, and lack of proper internet bandwidth, among others.

In contrast, the proper design and implementation of personalized learning promotes purposeful uses for technology that can transform instruction through the use of integrated digital content. Integrated Digital Content does not mean that students will be isolated on a device for an entire class period. Rather, teachers should actively find ways to incorporate digital content into their curriculum, thereby providing deeper learning through reinforcement and practice at the level that each student requires. Teachers can reinforce this integration by providing students with a clear understanding as to why a specific digital tool is being used.

Teachers can reinforce the integration of digital tools in their classrooms by providing students with a clear understanding as to how digital tools align with classroom instruction.

Enlarged City School District of Middletown (NY)
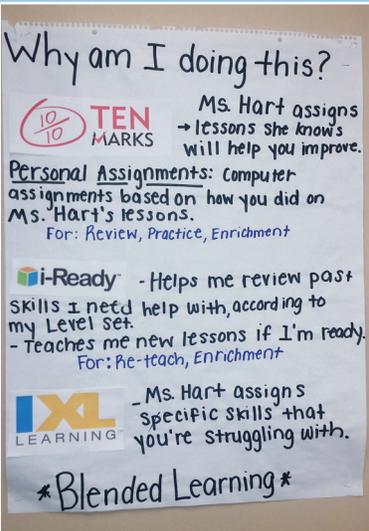
[6]Newman et al. "Authentic Pedagogy." http://archive.wceruw.org/cors/Issues_in_Restructuring_Schools/ISSUES_NO_8_SPRING_1995.pdf

## Integrating Digital Content into Instruction, *continued*

Some teachers may feel apprehensive to utilize digital content within their classrooms due to the various technology and device issues that may arise. Additionally, the thought of managing individual students while using digital content can be overwhelming whether due to the age of the students or specific classroom dynamics. Teachers who successfully integrate digital content into their classrooms find meaningful ways to convey their technology expectations to students. Successful teachers also develop clear processes for situations when technology issues arise which allows them to continue to support the instructional needs of students. Teachers can facilitate this process by developing the expertise of students to troubleshoot technology issues that arise within the classroom.
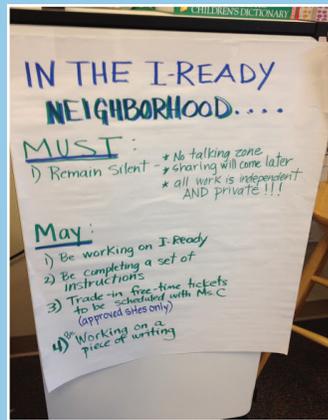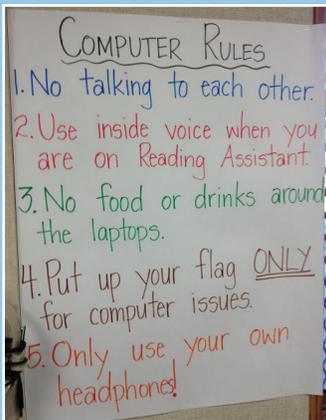
Successful teachers establish clear expectations for their students while using devices and digital tools.

Oakland Unified School District (CA)
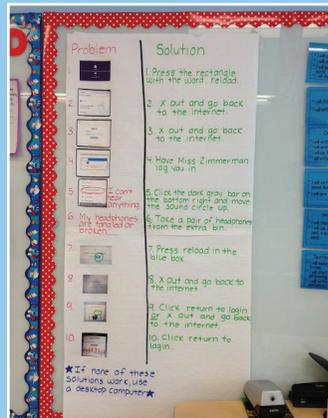
Creating processes for students to troubleshoot their own technology issues allows teachers to continue supporting the instructional needs of students.

Uinta County School District #1 (WY) and Enlarged City School District of Middletown (NY)

With an abundant supply of digital content available, district and school leaders should develop a comprehensive system for evaluating, acquiring, and refreshing digital tools. They should begin this process by first identifying the specific need for digital content. For example, educators may identify a need to better support students who are learning English or a need to provide additional practice on math concepts for a specific grade level. This need should also be based on the current role and goals of offline curriculum. Once the need is identified, specific digital tools can be demoed, piloted, and purchased to support student growth. For more on selecting digital content, see the [EE guide](#) on selecting curriculum to support personalized learning.

Potential First Steps to Implement Flexible Content and Tools	
ELEMENTARY	**SECONDARY**
Practice Skills - Reserve time (day of week, class minutes) for students to access content levelled to their skill sets	**Gain Insights** - Ask colleagues for suggestions of online and offline tools that can help support your students who need to learn at a different pace or show more engagement with certain products
Student Interest Inventory - Have students generate questions about a topic at the beginning of a unit, then work with colleagues (teachers, librarians, coaches) to provide content that helps students investigate those questions	**Collaboration** - Use online tools and class time to promote collaboration and peer feedback of student writing, hypothesizing, projects, etc.
Gain Insights - Ask colleagues for suggestions of online and offline tools that can help support your students	**Modular Formatting** - Build content and learning experiences in a modular format so that students will be able to work through curriculum at a slightly different pace
Start small - Differentiate the path, pace, or performance task of learning for a given week	**Start small** - Differentiate the path, pace, or performance task of learning for a given week

TIPS

for Flexible Content and Tools

- Remind teachers, students, and families that digital content content and online tools and devices are only one component of personalized learning; be clear about the benefit you expect new content and tools to provide.

- Establish a comprehensive process for reviewing, demoing, and purchasing new content and tools; prioritize the diverse needs of students and teachers as part of the process

- Obtain teacher and student input when evaluating content like books and lab kits as well as online tools and digital content providers

- Find meaningful ways to integrate the use of digital tools with offline instruction

- Establish a process to periodically evaluate the effectiveness of content and tools as well as the quality of different performance tasks students use to demonstrate knowledge

Targeted Instruction

GETTING STARTED

- Teacher reviews student data to identify instructional needs of students
- Teacher groups students in homogenous or heterogenous formats based on skill-level
- Teacher modifies delivery of instruction for each group of students based on student need

GOING DEEPER

- Data is used to create student groups based on student interest, need, or skill-level; student groups are changed with some frequency
- Teacher consistently modifies delivery of instruction for each group of students based on student need

ALL IN

- Data is used as an integral part of daily instruction to meet student needs
- Teacher consistently groups students in dynamic, purposeful ways based on interest, need, or skill-level and in strategic formats (one-on-one, small groups, etc.)
- Teacher consistently delivers targeted instruction for multiple purposes (introduction to new material, guided practice, tutoring, etc.)

Built for efficiency, traditional classroom instruction has relied upon whole-group strategies to support the academic growth of students. However, due to the diverse learning needs of students, this traditional approach rarely ensures that all students reach academic success. Instruction targets the middle and rarely meets the specific needs of students who are behind or ahead of the class average. Targeted Instruction involves breaking down the whole-group structure found in traditional classrooms in order to better meet the needs of all students. Rather than stick to a set curriculum or pacing guide, targeted instruction enables teacher flexibility in both what they teach and when they teach in order to drive student growth.

Leveraging data, teachers of personalized learning classrooms use targeted instruction to meet the needs of students. Teachers create small groups or individual pull-outs based on interest, need, or skill-level. The structure of the targeted groups themselves can support differentiation by using various strategies, such as grouping students with homogenous skills so teachers can focus their lessons or heterogenous skills to encourage collaboration.

Developing flexible methods to group students allows teachers to deliver targeted instruction to meet the specific needs of students.

Yuma School District One (AZ) and Horry County Schools (SC)
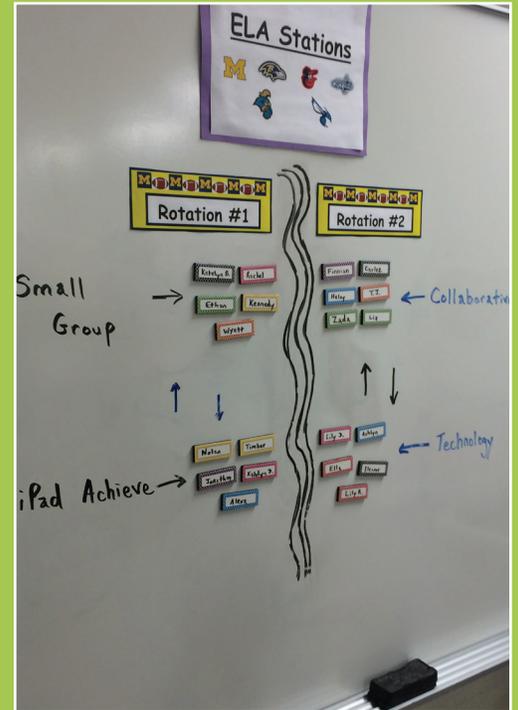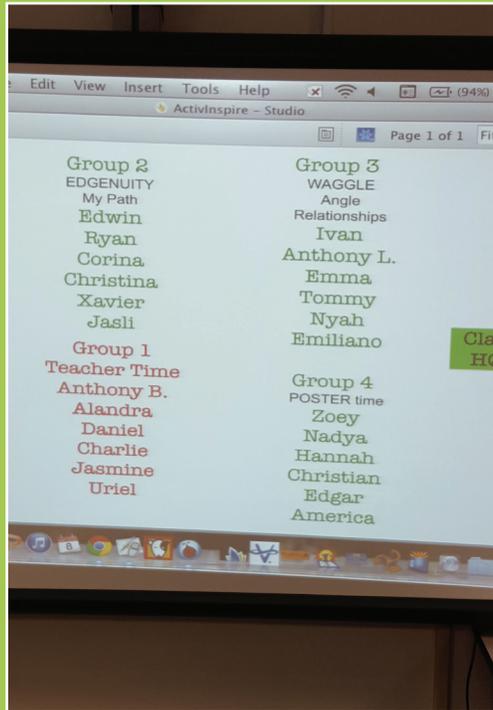
Many teachers are familiar with the concept of using centers, especially in elementary classrooms. While targeted small group instruction is similar to centers in some respects, teachers should also recognize the differences. Centers involve students rotating through the same activities and receiving identical instruction regardless of student need. Targeted small group instruction varies based on the diverse needs of students as identified by data. For example, a teacher may focus on multi-digit multiplication with one group of students and single-digit multiplication with another. Viewing targeted instruction in this manner creates opportunities for teachers to leverage data in order to provide the direct instruction that students need whether in a small group or individual pull-outs.

Additional benefits can stem from the use of targeted instruction. For example, targeted instruction provides students with more opportunities to share thoughts and express concerns as they work closely with both the teacher and peers with similar needs. Teachers also find that working with students in small groups can provide opportunities to listen, mentor, and build stronger relationships with students.

Potential First Steps to Implement Targeted Instruction	
ELEMENTARY	SECONDARY
Data-Driven Groups - Evaluate student data to identify specific students who need additional support to master a concept and create student groups accordingly	**Introduce New Concepts** - Split the class into small groups to introduce a new concept; iterate on the delivery of instruction for each group according to the needs of students
Dynamic Grouping - Change your student groups frequently based on the interest, need, or skill-level of students	**Small Group Discussion** - Facilitate a discussion on a specific topic with a small group of students to increase engagement
Delivery of Instruction - Deliver the instruction for the same content in a differentiated way for each group of students according to their needs	**Individual Remediation** - Pull specific students who have not mastered a concept and provide one-on-one tutoring

TIPS
for Targeted Instruction

- Identify specific student needs and create groups for targeted instruction based on these needs

- Create purposeful small groups or individual pull-outs of students based on interest, need, or skill-level

- Change student groups frequently in response to student needs

- Leverage targeted instruction to build relationships with students

Data Driven Decisions

GETTING STARTED

- Teacher reviews student data from online sources such as digital tools and apps in addition to offline data
- Teacher can identify the most important sources of data for student mastery
- Teacher meets with colleagues to review student data.
- Teacher uses formative assessments to check for student understanding

GOING DEEPER

- Teacher uses data from multiple sources (both online and offline) to inform instructional decisions
- Teacher shares data with students on a periodic basis; students review their data individually
- Teacher meets frequently with colleagues to discuss and review student data
- Teacher uses formative assessments and benchmarks to inform instructional decisions

ALL IN

- Teacher consistently uses data from multiple sources (both online and offline) to inform instructional decisions for individual students
- Data teams meet regularly to analyze student data and to make decisions about the individual needs of students
- Teacher uses data to provide immediate feedback to students; teacher and students consistently review data together to identify needs and teacher adjusts instruction accordingly
- Teacher uses formative assessments on a daily basis to inform instruction

Like never before, educators have access to copious amounts of data stemming from state assessments, district benchmarks, summative and formative assessments, digital content, student profiles, teacher observations, and more. Studies have found that the effective use of data can lead to improved student achievement.[7] While no single assessment can provide educators with all the data needed to make all instructional decisions, educators can leverage various data points to make informed decisions to assist and support students.

Data should inform instructional decisions for personalized learning classrooms. To do so, teachers frequently collect and review formative data to identify trends and areas that need improvement. Through such analysis, teachers can modify their instruction to meet the specific needs of students. For example, a teacher may discover that a math concept needs to be retaught to a small group of students within her class, or she may find that certain students are able to bypass a specific objective. Data can help drive the creation of groups for targeted instruction, the learning pathway of the class, and personalized learning plans for individual students.

The review of data can also provide students with meaningful opportunities to reflect on their efforts and determine their goals and learning plan accordingly. Teachers can provide helpful mentorship in supporting students to learn the importance of reviewing data to make decisions. Students may also use data to establish goals for themselves and monitor progress against them.

Some teachers have found data walls an effective tool to identify student needs and reinforce the importance of using data.

Horry County Schools (SC) and Greeley-Evans School District 6 (CO)

The use of student data should drive the creation of student groups within a personalized classroom.

Horry County Schools (SC)

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[7]Lewis, D., Madison-Harris, R., Muoneke, A., and Times, C. Using Data to Guide Instruction and Improve Student Learning. SEDL. 2015. http://www.sedl.org/pubs/sedl-letter/v22n02/using-data.html

Similar to the other Core Four elements, mastering the skill of making data-driven decisions requires ample training and support. Teachers may begin this process by ranking which sources of data are most important to their instructional practice and will be most helpful in identifying student needs. Additionally, teachers should develop a habit of analyzing data on a frequent basis to inform instructional decisions. School and district leaders should seek to develop a data driven culture within schools. Creating this culture may involve creating time for teachers to analyze data and collaborate with colleagues.

Overall, data is the engine that drives all of the Core Four elements. Data enables school and district leaders to identify needs for digital content. Additionally, data supports teachers to create groups for targeted instruction and allows students to develop meaningful goals based on reflection.

Potential First Steps to Implement Data-Driven Decisions	
ELEMENTARY	SECONDARY
Evaluate Data Sources - Identify all the sources of student data currently being collected and determine which sources of data are most valuable to drive instruction	**Check for Understanding** - Develop quick, efficient ways to evaluate student comprehension in real-time and adjust instruction accordingly
Data Wall - Create a visual data wall to show student progress towards a specific class goal or in meeting class objectives	**Collaborate** - Meet with a colleague to compare methods of collecting, analyzing, and using student data
Exit Ticket - Give students an exit ticket to complete at the conclusion of a lesson and use that data to inform your instruction for the next lesson	**Learner Profiles** - Learn more about students by collecting key information such as career aspirations, personal interests, and learning needs

TIPS
for Data Driven Decisions

- Train educators and students to utilize data to make instructional decisions
- Learn to identify the most important sources of data for your schools and classrooms
- Establish a routine for evaluating data
- Ensure formative assessments are part of your data routine
- Seek to develop a data-driven culture by focusing on individual student success
- Create opportunities for teachers to collaborate with their colleagues

Student Reflection and Ownership

GETTING STARTED

- Teacher provides students with foundational knowledge on the process of reflection
- Students use a tracker to monitor their own data and use simple means to reflect on their learning
- Teacher meets with students individually to listen and develop relationship with students
- Teacher provides students with some form of choice in assignment

GOING DEEPER

- Teacher supports students in setting their own simple learning goals
- Teacher provides students with choice in prioritization of tasks or path to complete assignments
- Students monitor their own data and reflect on their learning in a variety of ways (journal, blog, share with a partner, etc.)

ALL IN

- Students continuously reflect on their own data and academic performance to boost growth
- Students consistently set, track, and evaluate their own learning goals; student goals direct student activities
- Teacher meets with students on a frequent basis to provide mentorship and support

Possibly one of the most compelling attributes of personalized learning stems from its potential to create meaningful opportunities for students to take ownership of their own learning. Student ownership can lead to many benefits including increased engagement, goal-setting, self-direction, and lifelong learning. Student frustration and discouragement decreases when students truly understand how their academic performance relates to their progress. As students develop these types of skills, they will not only enjoy a more meaningful K-12 experience, but will also be better equipped for college and career opportunities in the future.

However, the path to develop reflection and

ownership is far from simple. Teachers will need to provide frequent mentorship, training, and support to students. In turn, students will need explicit training and opportunities to practice these skills. Like the other elements, developing reflection and ownership should be viewed as a long-term endeavor rather than a quick transition. Teachers will need to carefully consider the unique circumstances and situations of their students in order to create a successful plan to create student reflection and ownership. For example, teachers beginning this process may be surprised to find that high-performing students often struggle with self-direction. High-performing students are typically accustomed to following an explicit set of directions from teachers rather than working in an environment in which choice drives actions.

Students can begin developing these skills by learning to reflect on their learning. Built on the research of metacognition, reflection involves students taking time to compare their efforts to their results and then making plans to improve. Reflection begins as a teacher helps students to track their own data. Students can build on this foundation by learning to set specific goals for themselves.

Enlarged City School District of Middletown (NY), Uinta County School District #1 (WY), Yuma School District One (AZ), and Uinta County School District #1 (WY)
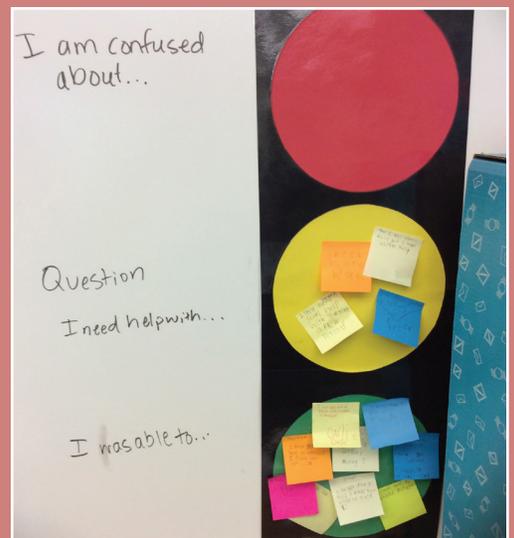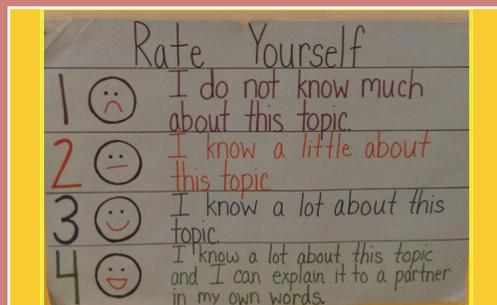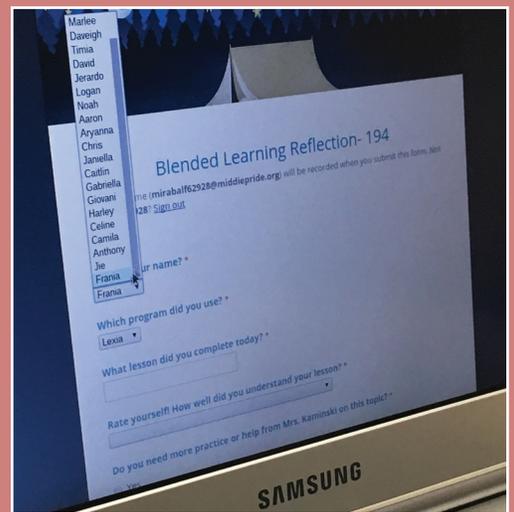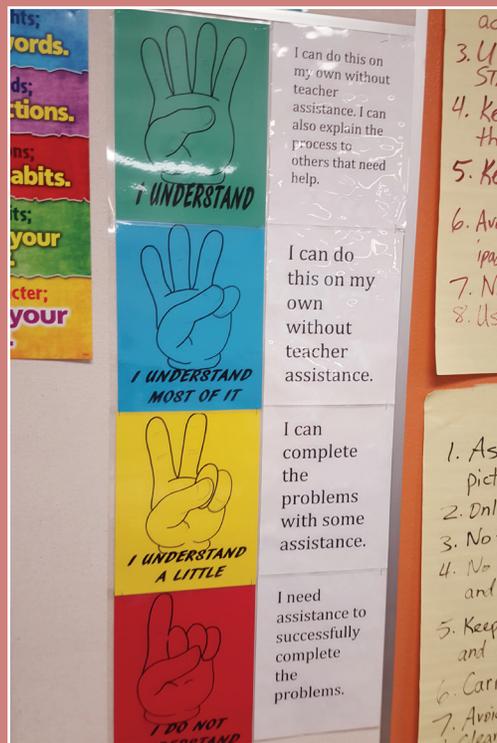
Mastering the ability to reflect opens the door for students to become self-directed learners. Once students have learned to set and track goals, they can develop more advanced skills such as prioritization of tasks and creation of their own schedules. Student agency is at the heart of this development. Teachers and school leaders can provide students with opportunities to make autonomous choices as a way to develop ownership. This may start simply, such as providing students a choice in which assignments to complete first. Teachers can build on this foundation by providing students with opportunities to select from a variety of projects or allowing students to choose how to demonstrate their learning. Through all of these experiences, students are given valuable opportunities to make choices and lead their own learning while teachers act as mentors and coaches.

Providing students with opportunities to choose and set goals is a powerful way to develop student ownership.
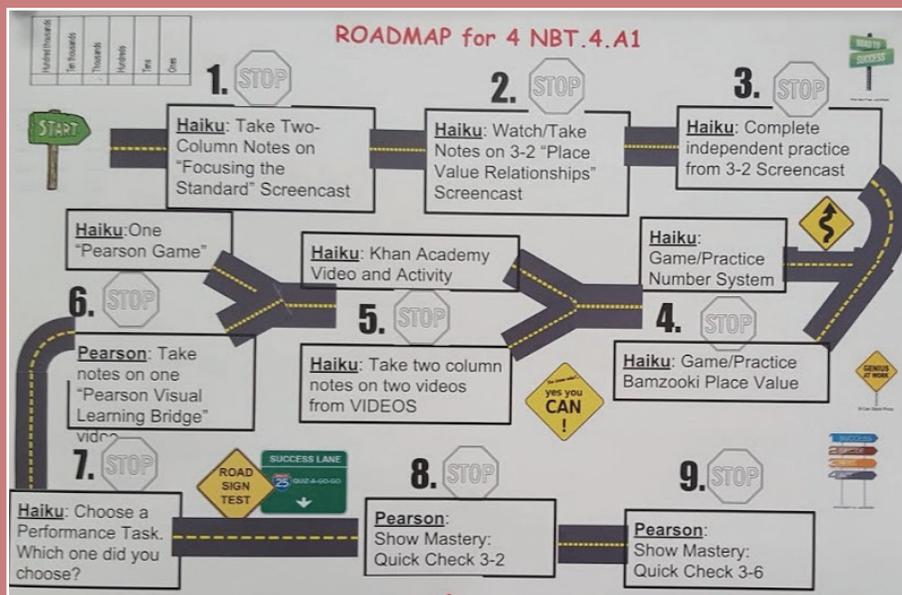
Metropolitan School District of Warren Township (IN), Oakland Unified School District (CA), Metropolitan School District of Warren Township (IN) and Uinta County School District #1 (WY)

Potential First Steps to Implement Student Reflection and Ownership	
ELEMENTARY	**SECONDARY**
Student Tracker - Support students in learning to track their own data stemming from a specific digital tool or class assessments	**Journal Entry** - Reserve a set number of minutes for students to reflect on their learning and goals by maintaining a journal--whether online or offline
Student Choice - Create a lesson in which students can choose from a set of resources that cover similar concepts	**Student Portfolio** - Work with students to develop portfolios of work and reflect on the progress of their work over time
Goal-Setting - Work with each student to establish a simple learning goal such as mastering a specific math concept or reading a certain number of books.	**Student Choice** - Allow students to create their own unique way of demonstrating mastery on a particular concept or objective

TIPS
for
Student Reflection and Ownership

- Train students to track their data and set learning goals

- Develop a process to provide formal mentorship for students

- Teach students to fail forward and embrace failure as an opportunity to learn and grow

- Encourage students to reflect in various formats

- Consider teaching students to develop a growth mindset as a foundation

- Provide authentic choice for students to develop ownership of their learning

Conclusion

Shifting to personalized learning is not a simple task. Significant effort will be necessary to create a vision, develop instructional models, acquire digital tools, and train teachers and students. As personalized learning continues to gain prominence in schools and districts nationwide, educators need to carefully consider what a successful implementation of high quality personalized learning entails.

The Core Four is designed to provide educators with a guide for their personalized learning implementation. The elements of the Core Four should be viewed as spectrums that can be started immediately in small ways, building on what you're already doing in your schools and classrooms. To master these elements alone or in conjunction requires a significant dedication of time and resources.

Wherever you are in your personalized learning journey, we are always happy to support you in thinking about how you can truly be successful in navigating this important shift in teaching and learning.

Interested in seeing the Core Four in action? Check out these examples from the Enlarged City School District of Middletown in New York!

Flexible Content and Tools

• Grade K
• Grade 3
• SPED

Targeted Instruction

• Grade K
• Grade 3

Data-Driven Decisions

• Grade 3

Student Reflection and Ownership

• Grade K
• Grade 3

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