Exploring Personalized Learning and SEM Together

Blane McCann
What Is The Schoolwide Enrichment Model and How Can Implementation Be Explored?  
An Overview

Joseph S. Renzulli  
Sally M. Reis  
The University of Connecticut

Note: A vast array of print and media resources are available that describe the theory, research, and practical strategies for implementing the SEM. The purpose of this brief overview is to present the “big picture” that will allow interested persons to determine whether or not they would like to pursue an adoption of this model by considering the seven most frequently asked questions by teachers, administrators, parents, and policy makers.

The Schoolwide Enrichment Model (SEM) is an organizational plan designed to improve academic achievement, student engagement in the learning process, and the professional skills and enthusiasm of teachers and principals seeking to infuse a more engaging brand of learning into their regular curriculum. Simply stated, the SEM is built around a commitment to and a series of strategies for applying the pedagogy of gifted education to enrichment learning opportunities for all students. A condensed version of at least three books dealing with how to implement the model can be found in Attachment A. This item can be reproduced and distributed without obtaining permission.

There is also a video on our website that covers many (not all) of the main ideas underlying the SEM. It is under the “SEM Articles & Presentations” section of the SEM Folder (http://www.gifted.uconn.edu/sem/semart.html). Click on: “Learning, Leading, and Lighting the Way: Applying the Pedagogy of Gifted Education to Total School Improvement (An Overview of Schoolwide Enrichment Model).” A figural depiction of the blended theory of knowledge underlying the SEM is presented in Attachment D.

The SEM includes a series of services that enable teams of educators to develop plans for implementing as their program evolves and matures. The full list of SEM Components is included in Attachment B, but school leaders should understand that not all schools are expected to implement all components and it takes approximately three to five years for a comprehensive SEM program to be developed. Nevertheless, some of the basic services are easily implemented at the outset of a new program,
A vast array of print and media resources are available that describe how to implement the SEM so the purpose of this brief overview is to present the “big picture” that will allow interested persons to determine whether or not they would like to pursue this adoption by considering the seven most frequently asked questions by teachers, administrators, parents, and policy makers.

1. **An Understanding of the SEM: How does the Schoolwide Enrichment Model differ from other plans for school improvement?**

   This is the most frequently asked question on the parts of school administrators, board of education members, and persons attempting to address policy issues about school improvement. Other questions that are often asked include:

   “Does the SEM throw out or replace the regular curriculum?”

   “Does the SEM dismiss the importance of learning basic skills and traditional curricular content?”

   “Does the SEM ignore the importance of improving achievement test scores?”

   The answer to these questions is clearly and unequivocally **No!** All public schools have state mandated responsibilities to:

   - Address prescribed sets of standards for curricular topics and skills.
   - Develop schedules and even prescribed numbers of minutes that allow for the coverage of the basic subject areas.
   - Employ teachers that are certified for specified grades and/or particular subject areas.
   - Prepare students for required state achievement tests.
   - Abide by collective bargaining negotiations.

   **The SEM is an Infusion Based approach to school improvement.** It is not the intent of the Schoolwide Enrichment Model to disagree with or minimize the importance of these state requirements, but rather to infuse a more engaging brand of learning into the regular curriculum through the use of model-specific teacher training experiences and the use of research verified resources.

   The Schoolwide Enrichment Model has often been referred to as “organized common sense,” and it was specifically designed to make learning more enjoyable
and engaging for all students by infusing teacher selected enrichment activities into the learning process. At the same time, we recognize that there is a range of achievement levels and potentials in every school; and we cannot improve performance with a one-size-fits-all approach to learning. Rather, our approach is to personalize at least parts of every student’s learning environment. We do this in the following three essential ways:

A. Pedagogically. The SEM is based on an easy-to-learn approach to curriculum enhancement called the Enrichment Triad Model; but our pedagogy has as much to do with attitudes about teaching and learning and the sense of belonging atmosphere that our model creates as it does with long lists of principles, platitudes, and educational clichés. Teachers and students develop a small number of skills about different ways to acquire knowledge or new ideas by using various questioning techniques, thinking skills, and opportunities to apply knowledge to investigative and creative projects. Teacher training in the SEM provides the know-how and technology-based resources that allow teachers to infuse various enrichment activities into selected units and lessons. Ready-made materials in Reading (SEM – R) and Mathematics (Project M3) have been specifically developed for infusing highly engaging enrichment experiences into these two areas of the curriculum and Science and Social Studies resources are also available through our Internet-based technology program called the Renzulli Learning System. We don’t say “Change your reading program!” We say, “Make it more interesting and engaging!” That is what is meant by infusion and that is how we improve achievement.

A pedagogical practice that we recommend for the development of basic skills also uses a personalized technology-based program called Odyssey Learning. This program uses computer technology to diagnosis specific basic skill competencies and electronically sends to students individualized skill building activities. Individual student growth is constantly monitored and records are maintained automatically.

We are aware that improved achievement is and always will continue to be the most important outcome of schooling, but we also have shown in our research that enjoyment, engagement, and enthusiasm for learning (The Three Es) are equally important contributors to higher achievement. Rather than constantly teaching-to-the-test, we have found that improved test scores are the by-products of a pedagogy that promotes investigative learning.
B. A Focus on Strength Based Assessment and Personalized Learning.

Although the pedagogy briefly described above was originally developed for programs that serve gifted and talented students, the SEM provides enrichment experiences and highly engaging learning activities for all students. We do this by using technology that creates individual profiles of each student’s achievement levels, interests, learning styles, and preferred modes of expression and matching enrichment-based resources to these student profiles. Teachers then use the same technology to identify, select, and infuse high engagement resources into any and all aspects of the regular curriculum.

C. Organizationally. Organizationally, the model provides:

- A specified process called Curriculum Compacting that is designed to adjust the rate and pace of learning according to each student’s achievement level. When it comes to basic or required curriculum, “one size does not fit all.” We adjust the pace and levels of challenge so that students in need of remediation can be targeted and served according to their specific achievement levels and students who have already mastered particular skills can be provided with accelerated or enriched learning experiences. Technology tools such as Odyssey Learning and the Renzulli Learning System allow teachers to easily provide the resources for these processes.

- Specially designated time blocks called Enrichment Clusters are set aside each week during which time all students who share common interests are organized across grade levels and come together to pursue their interests using an investigative model of learning. Once again, our technology-based resource program is a valuable tool for teachers facilitating these clusters.

- Cluster grouping within and across classrooms is sometimes used to facilitate learning when wide ranges of achievement levels are present in particular schools or at certain grade levels.

- Planned parent and community involvement is facilitated through a technology-based resource program called A.S.P.I.R.E. This program provides a systematic procedure designed to increase parent and community engagement in schools. This engagement is created by inventorying six factors: assets, skills, professions, interests, relationships and the environment, and utilizing them within a proper context that connects their value to the school’s educational programs and activities. The identified
"human capital data" collected through the A.S.P.I.R.E. Survey™ provides a databank of resources and information for supporting teachers in engaging parents and community members in enrichment activities, students’ authentic product development, mentorships and differentiated learning experiences.

The SEM is an infusion based approach to school transformation. We do not criticize nor recommend “throwing out” basic curriculum, current practices, programs, or projects if they are currently producing positive results in both achievement and joyful learning. Rather, the SEM strikes a balance between traditional approaches to learning and approaches that promote 21st Century learning skills and creative productivity on the parts of all students. Our goals are to minimize boredom and school “turn-offs” and to improve achievement and creative productivity by the infusing Three Es (Enjoyment, Engagement, and Enthusiasm For Learning) into the culture and atmosphere of a school, the tool bags of teachers and administrators, and the mindsets of students.

II. Is the SEM research based?

Yes, the SEM is research based and grounded in a learning theory that has stood the test of time. More than thirty years of research has been carried out on various components of the SEM. And this research has been published in the most prestigious professional journals and is available on our web site. All studies can be downloaded and reproduced without cost or permission.

III. Are all SEM schools the same?

No. School populations, leadership, faculties, resources, and commitments to existing programs and practices differ across SEM schools. The only thing that we specify for all SEM schools is that a commitment must be made to three very simple but straightforward common goals – what we call The 3 Es for both students and teachers: Enjoyment, Engagement, and Enthusiasm for Learning. We strongly believe that each school must devise its own unique means for pursuing these goals. Thoughtful educators usually become interested in the SEM because they are tired of over prescription and school improvement plans that have largely factored out their own intelligence, creativity, and the unique demographics and conditions that characterize every school! Each SEM school faculty should develop pride and ownership of their own program because they took part in building it. This opportunity for more flexibility and local ownership also encourages ongoing reflection and creative opportunities to pursue continuous modifications for direct
services that promote the 3Es of enrichment teaching and learning. As one teacher said, "When it comes to SEM, the attitude and the culture of the school is everything."

IV. How does the SEM differ from other school improvement models and how does it relate to our regular curriculum and the use of state or common core standards?

First and foremost, because of the 3Es that underlie the SEM, this approach is a strength-based rather than a remediation or deficit-based approach for pursuing school improvement. When it comes to practical implementation, we think of the SEM as an "infusion based approach" that introduces more enrichment and challenging curricular modifications into any and all aspects of the present curriculum. We do not advocate "throwing out" the existing curriculum! Rather, we recommend that practitioners examine selected parts of the regular curriculum for opportunities to infuse more engaging and enjoyable learning material that relate to existing curricular topics.

At the practical level, we accomplish this approach through the use of differentiated teaching strategies and an Internet-based technology program called Renzulli Learning System (RLS: see Attachment C). Using RLS, teachers can personalize activities for individual students or designated groups according to students’ electronically generated profiles. Profiles provide information on factors that include academic strength areas, interests, learning styles, and preferred modes of expression. Items in the RLS data bases are multiply tagged by these factors to facilitate personalization. Teachers use the same system to select, infuse, and extend upon thousands of high-engagement resources in our databases that can be infused into almost any regular curricular topic.

V. Does the SEM replace our existing gifted program?

No. If your school has a special teacher(s) for identified gifted students, we do not recommend eliminating either the program or existing services. In some states, legislative requirements for such services exist and parents of identified students exert strong pressure to protect services for these labeled students. SEM simply provides vehicles whereby more enrichment opportunities can be extended to larger proportions of the general student population. An existing teacher with special training in gifted education can be a valuable asset to the implementation of SEM program services by providing staff development, facilitating the implementation of SEM components such as Enrichment Clusters and Curriculum
Compacting, and also in coaching teachers in the use of gifted education pedagogy in their classrooms and in implementing Enrichment Clusters.

VI. What are the personnel requirements of a SEM program?

We recommend that all schools using the SEM establish a Schoolwide Enrichment Team to begin and maintain the process of full implementation; however, our experience has shown that an enrichment specialist in each school or a person who shares his or her time between two schools is the best way to ensure that a full range of SEM services is implemented. In the absence of a designated enrichment specialist, we recommend that one or two teachers be provided with some release time or supplementary compensation to serve as the coordinators of the Schoolwide Enrichment Team. Again, experience has shown that leadership and task-dedicated responsibility are essential to practical implementation of SEM components, sustained longevity of programs, and ongoing introductions of innovations that make each SEM school relatively unique.

A second essential consideration is the building principal. This person must be knowledgeable and enthusiastic about all aspects of the model, committed to a change process in his or her school, and most of all, have a vision for the school that will make him or her eager to implement SEM and to establish an open door policy for parents and visitors to visit the program. We have found that pride of ownership, collective trust between the principal and teachers, and a willingness to “work things out” when differences of opinion occur is the best definition of effective leadership. Not all principals have the kinds of flexibility necessary to guide a school program that, by definition, thrives on flexibility and differences from a business-as-usual organization.

VII. What steps should a school take if it wants to implement a SEM?

The first step should be to gather and circulate some general information about the SEM to members of a planning or steering committee. Recommended introductory articles as well more detailed (book length) sources are listed on the website below that include numerous research studies, articles about implementation, slides from PowerPoint presentations, videos, and a directory of schools that have agreed to be visitation sites (http://www.gifted.uconn.edu/sem/). Following discussions among the planning group, and if a decision is made to take further action, contact should be made with the SEM Outreach Coordinator to explore next steps. These steps typically include: (1) participation in our annual summer institute at the University of Connecticut (See Confratute at website -
http://www.gifted.uconn.edu/confratute/), (2) discussion about on-site staff development sessions, and (3) plans to visit one or more very successful SEM schools.
It is human nature to integrate new information into existing mental models (Senge, 2000). Our personal experiences as students, our teacher preparation and experiences, and the test-driven memories of our most recent history all influence our consumption of new information. However, piling new on old doesn’t allow our minds fresh thinking opportunities. Instead, adding new to old simply adds more quantity to the boundaries and parameters of our original learning that already confines us. Thus, for the subject at hand, we offer the following mental models to reframe your thinking to prepare you to engage with the personalized learning ideas and accompanying strategies we will discuss in this book.

For us, the path to personalizing learning required us to reframe our thinking around three areas: (1) curriculum maps, (2) the role of the teacher, and (3) collaborative conversations. In this chapter, we will look at each of these areas and discuss how reframing them enables us to extend learning for students who have demonstrated proficiency with the instructional content. You may have already been thinking of these items in ways that resemble what we describe in our reframing; we are not suggesting everyone reading this book will need to change their thinking or that we are offering thoughts others have never considered. If you read one reframing idea and you are already doing it, you can enjoy knowing you’ll need to expend less mental energy on that idea and move to the next.
Reframing Curriculum Guides or Maps

Many of us remember our first days of teaching and entering our first classroom or new teacher induction program with wide eyes, eagerly anticipating direction on what we would be expected to teach students. The three authors of this book all had very different experiences in their first roles, and we suspect that everyone reading this book can relate to one of the three. One had a very detailed curriculum map and pacing guide that teachers were expected to follow in great detail. Another was handed a one-page document and the district-approved textbook for the course. He found that the one-page curriculum document was simply a list of the chapters in the book and was told to teach it however he saw fit. The third was given a detailed curriculum map and pacing guide but was informed that this was just a guide and that he had plenty of freedom to make it work for him. Three brand-new teachers, three different guidelines, and three different sets of expectations.

We propose that you and your collaborative team have a conversation and add those to whom you report in order to gauge where your school or district falls within these three scenarios—or perhaps there are other scenarios we haven’t considered here. Your collaborative structure and curriculum expectations are unique to you. Before you continue, please review your curriculum map and any school or district non-negotiables that could impact your classroom actions.

In many school districts, we have seen very specific curriculum maps that lay a foundation for a guaranteed and viable curriculum. A guaranteed and viable curriculum ensures that every student, regardless of the teacher, principal, or school he or she is assigned to, has the same opportunity to learn from a highly effective teacher because schools set the systems in place to ensure this occurs. This includes determining the most important standards to be taught across grade levels and courses that are tied to an established and aligned assessment plan (Marzano, 2003).

The research is clear about the importance of a guaranteed and viable curriculum, and personalization is not intended to distract from it. Institute for Personalized Learning senior advisor and personalized learning author Jim Rickabaugh refers to this and other non-negotiable items as “load-bearing walls” (J. Rickabaugh, personal communication, September 21, 2016). To do this work, you need to identify the non-negotiable walls (standards, indicators, district assessments) and those you have the ability to alter (small-group work, intervention and extension time). Interestingly, load-bearing walls in one district or school can look different from those in another. In fact, our research for this book finds that tolerance for personalized learning
looks very different from one building to the next. We want to make sure you are fully aware of your circumstances as you begin this work. Identify the most flexible places, or non-load-bearing walls, in your curriculum map and instructional model (see figure 1.1).

<table>
<thead>
<tr>
<th>Individual Reflection</th>
<th>Load-Bearing Walls in Our District or School</th>
<th>Non-Load-Bearing Walls in Our District or School</th>
</tr>
</thead>
</table>

**Figure 1.1: Identifying load-bearing walls.**
Visit go.SolutionTree.com/PLCbooks for a free reproducible version of this figure.

In one district, we reviewed a language arts map, which included standards, indicators, suggested materials and resources, common assessments, and pacing available for all teachers. Within the eighty-six-minute block, there were items recommended for the whole group which may take fifteen to twenty-five minutes per day and would not be considered as prime for personalization. The rest of the allotted time had room and flexibility for personalization. In this example, there was a great deal of time for personalization, while also providing guardrails for what is required and non-negotiable. In another school, this one a gifted focus school, teams found that extended learning for students needed to be built around the district-mandated and time-sensitive common standards and assessments that occurred after each four- to six-week unit of instruction. Around this load-bearing wall, the school could build its teaching strategies that would best suit the many question 4 students in an innovative way that worked for them.

The last thing we want is for readers of this book to be in a position where they have to defend the use of personalization. We contend that by being very clear about load-bearing walls with others in your environment, your success at implementation will be far more likely. Consider the guaranteed and viable curriculum, required assessments, school and district tolerance for trying new things, and other mandatory components to your position when identifying load-bearing walls.
Reframing the Teacher’s Role

For some, the teacher’s role may be the most difficult area of reframing we discuss in this chapter. It seems everything we have been taught in our profession has put us, as educators, at the center of the learning process. We think back to our own formal teacher education training and reflect on the phrase we heard repeatedly, which was intended to be a guide for how we—as teachers—should develop lessons: from sage on the stage to guide on the side (King, 1993).

Alison King (1993) uses this phrase to challenge college professors to instruct differently. In her article, King (1993) states that the day and age of the instructor being the sole source of knowledge and pouring information into the empty vessel of the learner is no longer effective. She then provides specific examples of how educators should change to being the ones who facilitate, orchestrate, ask questions, and provide resources in order for the learners to think up their own answers (King, 1993).

Sometimes, when we authors were new teachers, we felt guilty when the class was engaged in learning but we were not specifically lecturing or at the front of the class and leading the lesson. We privately wondered if this was cheating. However, with this “guide on the side” way of thinking, not only was it acceptable but it was also encouraged. We should intentionally and deliberately think about ways to promote active learning and facilitate activities such as think-pair-share, generating examples, developing scenarios, concept mapping, flowcharting, predicting, and developing critiques.

While we still support the “guide on the side” thinking, personalized learning adds yet another wrinkle. Many of these activities to promote active learning that we have mentioned are still very teacher driven and developed, even when the teacher is not lecturing from the front of the classroom. Rickabaugh (personal communication, September 21, 2016) describes the next shift and transformation in learning: “Don’t just be the sage on the stage or the guide on the side, be the mentor in the middle.”

We love this quote as it relates to personalized learning. First, we appreciate the use of the words don’t just. What that tells us is there is a time to be the sage on the stage and a time to be the guide on the side, but don’t be just that. Also be the mentor in the middle. It reminds us that in a personalized learning environment, it isn’t always going to be one way or the other. There will be times when it is most appropriate for a teacher to stand up and be the sage on the stage. When students are misusing potentially dangerous equipment, for example, we want the teacher to provide very specific knowledge and content for safety’s sake. We don’t want out students to learn
in a self-directed way. There will be other times when being the guide on the side is the most appropriate. For example, if the standard calls for using mathematical representations of Newton’s law of universal gravitation and Coulomb’s law to describe and predict the gravitational and electrostatic forces between objects, the classroom activities may look more facilitated than personalized. Most students aren’t going to know this on the first day of class. However, if this teacher has students in class who, for some reason, are well familiar with these laws and can prove this understanding on a preassessment, the teacher could allow these students to conduct an experiment they find interesting that proves the laws to be true. Or perhaps a team of students work together to develop a video clip of movie scenes that demonstrate Newton’s laws that they could later share with the class.

Rickabaugh’s quote also reminds us that when you aren’t just being a sage or a guide, you are stretching yourself to do more. To be the mentor in the middle, you are taking on a very different role. Mentors, by nature, are experienced and trusted advisors who support mentees on their personal journeys. When we authors think of our own mentors, our relationships with them started with the mentors being good listeners and co-developers of the necessary actions and steps to meet our goals. To us, this role is much different from guiding or facilitating because it makes it personal, which is what all learning is.

Being the mentor in the middle can be a little uncomfortable. As the teacher, you are letting go of some of the responsibility and shifting it to the learners. If you are starting to fidget a little bit while reading this book, remember this is why we are discussing mentoring in the context of reframing, and we are advising you to start slow. We think the following example helps illustrate the mentor in the middle, as this teacher was literally in the middle of the classroom as students worked on the perimeter and he gave immediate feedback to support their work.

A fifth-grade science teacher shared that, for the most part, before he began using personalized learning, every day he arranged students in neat rows. Because he taught the one elementary grade level in which students are assessed on the state test in a three-year band, he felt a great deal of responsibility to make sure the students not only were proficient at what they learned in fifth grade but also remembered what they had learned in the previous grade levels. At the start of each class, he followed a pretty familiar pattern for his lessons. He wrote the objectives of the lesson on the board, and students would start with a short quiz on the previous night’s reading assignment. He would lead a lecture or discussion, and an activity with some sort of hands-on feature would follow. Last, he grouped students in teams and assigned
a sort of review game for them to play, which would include items from third and fourth grade that might be on the state test. When asked what students would do if they already knew the material, he shared that they could always pick up one or two new ideas in class that they hadn’t considered before.

However, after this teacher made a commitment to extend learning for question 4 students, the classroom looked very different. When the students entered the room, this teacher asked them to complete a short preassessment that gave students three leveled options for responding to a question on the topic the class would be exploring. Students could read over the three choices and complete the task they felt most comfortable answering. The teacher jokingly called it “a poor man’s adaptive test.” Based on students’ level choice and the accuracy of their responses, the teacher could identify the question 4 students for the upcoming learning target and extend their learning. The teacher would meet with these students and have a collaborative discussion about the extended tasks that the students could do around the topic. Then, after whole-group instruction each day, the students worked on the project they decided on as a group.

What we love most about this activity is the willingness of the teacher to be vulnerable—to take a risk to engage students so they might own their learning. This teacher will tell you that the mood, environment, and energy levels far outweighed those when teaching the same standards just one year prior for both the students who already knew it and the students who did not. Students who already knew it and owned their learning, wanted to learn, and were more confident while working at their own pace. Students who didn’t know it yet had more teacher attention and could shine while answering the questions and leading the small-group activities. Classroom duties and leadership roles were redistributed.

**Reframing Collaborative Conversations**

When we think about the ways that we have known teachers to approach teaching question 4 learners, we consider their various options for strategies on a type of continuum ranging from the least amount of energy for the classroom teacher on one end to the most amount of energy that exceeds the normal routine of a typical classroom on the other.

The strategy that has the least effect on the classroom teacher is, of course, to do nothing additional. Teachers stick to the course guides and scope and sequence and vertical alignment documents they have developed for the entire class and apply these with all students. We do not promote the idea of plan, instruct, assess, and move on
to the next unit and allow the student who already knows it to be a part of the regular class. The research we share in this book suggests that this method can actually have adverse effects on students (Long, 2013).

The next options on the continuum involve pull-out services provided by trained gifted education teachers. During this pull-out, these teachers stretch students' learning in ways that engage and challenge students. Slightly further along on the continuum, we find similar strategies to the pull-out strategies, but with the gifted staff coming into the existing classroom during scheduled times.

Moving along on the continuum, the next options involve more energy and planning on the part of teachers. They consider those students who have been identified as gifted using approved district measures throughout the course of a given unit. In this arrangement, for example, all students receive an assignment to work on after the whole-class instruction. The few gifted students might be asked to meet the teacher at the front of the room and are then challenged to take the assignment further or do more in the time that other students are engaged in the original activity.

Finally, options toward the far right of the continuum, which include using data, are less common but are the ones we most advocate using. To begin moving further along on the continuum and implementing more robust options for responding to question 4 students, teams will need to reconsider what they discuss during collaborative conversations. Teams should also consider what "already proficient" means to them. Does it refer to students who show proficiency after a common formative assessment? Or does it refer to students who already know the material before you begin instruction? To us, these two topics have major differences and need to be considered by all teams.

How teams define proficiency will require additional adjustments to collaborative conversations that they may not be accustomed to. For example, if a team identifies students as proficient based on performance on a common formative assessment, the collaborative team really needs to make certain that its learning plans and pacing guides include flexibility to respond to these students. The team would need to have conversations around developing specific, additional lessons that meet the needs of students at regular intervals that would take place after each common formative assessment. Realize, however, the drawback with this approach is that the students who knew the material when they walked in the door would have still been involved in the same instruction as all of the students in the room up until this formative assessment occurred, even if they already knew the information. In addition, based on the most typical concern we hear from teachers, we know time is of the essence. It
can be difficult to identify a time in the school day to allow for this type of teaching following a common formative assessment but before beginning teaching the next set of content. These are issues a collaborative team will need to discuss and decide how to respond to.

If teams identify students as proficient before beginning instruction, they'll need to decide what criteria to use to determine this proficiency. Without some sort of preassessment, question 4 students would still be a part of the traditional instruction of every student in the room at least until a teacher gives and reviews a formative assessment to determine who does and does not know the material. If teams define already knowing it in the context of before the lesson, they need to have conversations to create measures and procedures to learn what understandings and abilities students have before instruction occurs.

In our personal experiences and in reading the work of the experts in gifted education, there are various ways to go about this task. This includes using information that you have learned about the students from work in the class in a previous unit or assessment, offering an opportunity to complete a project, and, probably the most common, providing a preassessment (as we described in the example of the fifth-grade teacher in the preceding section, Reframing the Teacher’s Role [page 201]). The preassessment doesn’t have to be long or look exactly like the final test that students will be completing at the end of the unit; it needs to be something that informs the teacher about how this student will have his or her time best utilized over the course of the unit.

A shift to offering a preassessment and then thinking about the various options for differentiating the instructional activities may pose a need for some teams to reframe their processes, procedures, and the way they think when they have conversations about how to logistically use and respond to preassessments within their workflow. Regardless of where your team falls on the continuum, you need to know what you are going to do with question 4 students before you begin instruction, so you must reframe your collaborative conversations to address this.

For teams who have not previously considered preassessments, this will likely create a wrinkle in what you are used to your agendas and team meetings looking like. To help make a smoother transition to this shift in the way team conversations are framed, we offer some questions for teams to discuss: How do we make sure that the needs of all students are met, which means determining who already knows the material? How do we, as a team, want to preassess students? As a result of this preassessment, how do we plan to personalize learning? While incorporating these
Reframing

instructional strategies, how will grading be impacted? Collectively answering these questions prior to the start of a given unit will provide teams with an intentional and deliberate approach to addressing question 4 with a small reframing of their collaborative team time.

We suggest teams also consider deciding to change their typical agendas to discuss question 4 along with question 2. Many teams we have worked with assume they must follow the four questions in chronological order in their collaborative meetings, which is likely one reason question 4 is often omitted. By the time many teams get to question 4, it is too late. By reframing their conversation structures to discuss these two questions concurrently, teams will be equipped to address this item. We think this will serve as a reminder to teams that if you are truly going to do something for question 4 students, it must be considered at the start of the ongoing cyclical process of a collaborative team.

Next Steps

As you continue reading this book, consider how you and your collaborative team will make a shift toward moving within your load-bearing walls, being this mentor in the middle, while reframing how you think about the curriculum and the teacher’s role, as well as how you discuss and develop ways to respond to question 4 students as a collaborative team. Before you move on to the next chapter, use the reproducible “Individual Reflection: Teaching Approaches” (page 26) to reflect on your individual approach to the teacher’s role. Then, as a collaborative team, use the reproducible “Collaborative Team Discussion: Reframing” (page 27) to reflect on your team’s current reality and support collaborative conversations and learning in your collaborative team.
Educators are beginning to use the term *personalized learning* more and more frequently. In fact, our colleagues note it is not uncommon to see a reference to personalized learning in district strategic plans, journal articles, and books. As we have worked with and for school districts that have implemented approaches that deliberately put students at the center of learning and intentionally plan for how they will respond to proficient students, we have seen engagement and achievement flourish. Teachers and administrators who have embraced concepts such as personalized learning, Genius Hour, and schoolwide enrichment have an advantage in addressing PLC critical question 4 because they have had practice in using these methods that are beneficial to question 4 students’ extension. Therefore, we believe the five elements of personalized learning serve as a wonderful foundation for framing how your collaborative team addresses question 4. In this chapter, we will clarify the concept of personalized learning by defining the term, address misconceptions, outline the five elements we identify as comprising this approach to teaching and learning, and discuss the research and realities that support using this approach in your classrooms and schools.

**Definition of Personalized Learning**

*Personalized learning* can mean many different things to many different people. Is it a free-for-all where students come in and do whatever they want? Is it using a series
of packets that students complete one after another? Is it a personal learning plan? Is it offering classes online with 24-7 access? A grandparent at a community forum we attended may have summed up the confusion best when she asked, “If my grandson wants to learn about clowns all day, can he just do that and forget about math?” To her, personalized learning sounded loose and unstructured, with little direction, and not tied to the standards and indicators of the content being taught. We can assure you that this is not the type of personalized learning we espouse.

Take a moment before you read any further in this chapter to reflect on what your definition is for personalized learning (and, please, leave out any references to clowns). When you reconvene with your collaborative team, share your definitions. In what ways are your definitions similar or different?

**INDIVIDUAL REFLECTION**

Without reading any further in this chapter, how do you define personalized learning?

If you struggle with a definition, you are in good company. In fact, EdSurge columnist Alex Hernandez (2016) writes that personalized learning is so difficult to pin down, perhaps we should stop trying to develop a definition. We, however, would argue that developing a common vocabulary and set of elements has truly been the keys to our growth in this area.

Also, if yours is like other teams, your conversations may reflect a difficulty in determining the difference between traditional differentiation, individualized learning, and personalized learning. Personalize Learning, LLC founders Barbara Bray and Kathleen McClaskey (2015) offer a wonderful chart and exercise in their book *Make Learning Personal: The What, Who, WOW, Where, and Why* (see table 2.1, page XX). They (Bray & McClaskey, 2015) break down the differences between differentiation, individualized learning, and personalized learning into nine categories.

*Individualized instruction* is what takes place when the teacher provides accommodations and customization to the individual learner. Even when individualization takes place with technology in an anytime, anywhere format, it is still the teacher that assigns the tasks (Kallick & Zmuda, 2017). *Differentiated instruction* is what takes place when the teacher provides accommodations and customization to groups of learners. Again, the teacher still assigns the tasks. *Personalized learning* is what happens when the teacher provides groups and individuals with accommodations and customization but the learners help drive their own learning.
Table 2.1: Differentiation Versus Individualization Versus Personalization Chart

<table>
<thead>
<tr>
<th>The Teacher . . .</th>
<th>The Teacher . . .</th>
<th>The Learner . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides instruction to groups of learners</td>
<td>Provides instruction to an individual learner</td>
<td>Drives his or her own learning</td>
</tr>
<tr>
<td>Adjusts to learning needs for groups of learners</td>
<td>Accommodates learning needs of the individual learner</td>
<td>Connects learning with his or her interests, talents, passions, and aspirations</td>
</tr>
<tr>
<td>Designs instruction based on the learning needs of different groups of learners</td>
<td>Customizes instruction based on the learning needs of the individual learner</td>
<td>Actively participates in the design of his or her learning</td>
</tr>
<tr>
<td>Is responsible for a variety of instruction for different groups of learners</td>
<td>Is responsible for modifying instruction based on the needs of the individual learner</td>
<td>Owns and is responsible for his or her learning that includes voice and choice on how and what he or she learns</td>
</tr>
<tr>
<td>Identifies the same objectives for different groups of learners as he or she does for the whole class</td>
<td>Identifies the same objectives for all learners with specific objectives for each individual who receives one-to-one support</td>
<td>Identifies goals for his or her learning plan and benchmarks as he or she progresses along his or her learning path with guidance from teacher</td>
</tr>
<tr>
<td>Selects technology and resources to support the learning needs of different groups of learners</td>
<td>Selects technology and resources to support the learning needs of the individual learner</td>
<td>Acquires the skills to select and use the appropriate technology and resources to support and enhance his or her learning</td>
</tr>
<tr>
<td>Supports groups of learners reliant on him or her for the learning</td>
<td>Understands the individual learner is dependent on him or her to support the learning</td>
<td>Builds a network of peers, experts, and teachers to guide and support his or her learning</td>
</tr>
<tr>
<td>Monitors learning based on the Carnegie unit (seat time) and grade level</td>
<td>Monitors learning based on the Carnegie unit (seat time) and grade level</td>
<td>Demonstrates his or her mastery of content in a competency-based system</td>
</tr>
<tr>
<td>Uses data and assessments to modify instruction for groups of learners and provides feedback to individual learners to advance learning</td>
<td>Uses data and assessments to measure progress of what the individual learner learned and did not learn to decide next steps in the learning</td>
<td>Becomes a self-directed expert learner who monitors progress and reflects on learning based on his or her mastery of content and skills</td>
</tr>
<tr>
<td>Uses assessment of and for learning</td>
<td>Uses assessment of learning</td>
<td>Uses assessment as and for learning with minimal assessment of learning</td>
</tr>
</tbody>
</table>

Source: Adapted from Bray & McClaskey, 2015, pp. 9–10.

Even though this chart (see table 2.1, page XX) highlights differences, we should note that these three concepts are deeply connected. Carol Ann Tomlinson (2017), *the* guru on differentiated instruction, refers to personalized learning as a type of
differentiated instruction. Andrew Easton (2016), a teacher who works for a midwestern school district as a personalized learning collaborator, offers an interesting perspective on the relationship between these three key themes. He explains that personalized learning is differentiated and individualized instruction on steroids (Easton, 2016).

The key distinction between personalized learning versus differentiation and individualization is students have voice and choice in what they are learning. To us, the linchpin of personalized learning is voice and choice (one of the five elements we discuss in the next section, page XX) and how teachers use it in conjunction with the other elements. That being said, our definition of personalized learning is: an instructional approach designed to nurture learners to discover and broaden the ways in which they learn best so that they become independent learners committed to their learning by encouraging student choice, voice, and interests to master the highest standards possible in a relational environment.

A Misunderstood Concept

[AQ: Added heading here and moved up discussion of Herold article. OK?] As we’ve noted, personalized learning can mean many different things to many different people. While there is a great deal of momentum around personalized learning, Benjamin Herold (2017) explores in an EdWeek article three main critiques educators and policy makers have expressed regarding this learning philosophy: (1) the hype outweighs the research, (2) personalized learning is bad for teachers and students, and (3) big tech + big data = big problems. We’d like to offer our perspective on the points this article raises.

The hype outweighs the research. Some educators are unresponsive to personalized learning because there is not a definitive set of research to demonstrate its effectiveness. While the RAND Corporation has done some research in this area, they have not developed studies to cite conclusive evidence. Also, this topic becomes hard to study because the term personalized learning means different things to different people.

While there is not a definitive set of research on this topic, Herold (2017) highlights that there is a great deal of research that supports the fundamentals of personalized learning, which include giving students control over their own learning, differentiating instruction for each student, and providing real-time feedback.
Personalized learning is bad for teachers and students. Many educators are under the impression personalized learning is really just putting learning on the computer where tasks are broken down into smaller segments and students quietly proceed through a program until they reach completion at their own pace. They are concerned that if this is what personalized learning is, it does not offer an inspiring education experience. Herold (2017) notes that until personalized learning can figure out “the appropriate role for software in the classroom, how much autonomy is best for student learning, and the challenge of maintaining high standards and social interaction when every student is pursuing his or her own path,” these concerns will remain high.

We agree that personalized learning is an often misunderstood topic. The difficult thing is that one person might feel it is a computer program that students work at their own pace and another feels it is a way of thinking when designing classroom, activities, or units in a way that works in parallel with the teacher, and they are both correct. There is not one universally agreed on definition. However, to us, personalized learning is the latter of these two conceptualizations. It is teachers philosophically and collaboratively developing instructional strategies that incorporate concepts such as knowing your learner, allowing voice and choice, providing flexibility, using data, and integrating technology. Personalized learning is not, to us, students working on a computer program on their own in the corner of the classroom.

Big tech + big data = big problems. To some, personalized learning means a large emphasis on data hardware and software, which involves technology companies. For example, Mark and Chan Zuckerberg have pledged to invest millions of dollars into the initiative. With this type of involvement, Herold (2017) notes there are concerns about sacrificing student privacy and asks, if students are entering detailed information about their thoughts, preferences, hopes and fears, is that something we are OK with? Herold (2017) also raises the question of whether it is appropriate have formulas and algorithms to determine what students are learning.

Big data and algorithms are not a part of any conversation regarding the personalized learning that we promote in this book or the schools and districts we highlight throughout this book that are using this approach. It is a philosophy and way of thinking for classroom teachers and is not intended to replace the teacher in any way.

It is important to note when studying personalized learning that there are many misconceptions and misunderstandings around this topic. In the following sections, we will describe in detail our view of this concept to ensure that all readers understand personalized learning as we envision and intend it.
The Five Elements of Personalized Learning

While working with groups of teachers implementing personalized learning, we reached a key turning point when we broke down the definition and understanding into smaller parts we call the five elements of personalized learning. These elements serve as the framework for the subsequent chapters in this book.

1. Knowing your learners
2. Allowing voice and choice
3. Implementing flexibility
4. Using data
5. Integrating technology

It is important to note that implementing one of these elements in isolation is not personalized learning. Typically, it takes combinations of the elements to come together to create personalized learning. Grouping students or rearranging furniture does take make a lesson personalized; however, it might be if you discover where students are in their learning with a preassessment and then establish opportunities for voice and choice by offering learning tiered activities to meet the learner at his or her level based on how he or she performed.

Teachers working in collaborative teams will be able to better address critical question 4 if they make it a regular part of their time together and frame their critical question 4 conversations around the five elements of personalized learning. In most cases, question 4 students have likely proven through various traditional methods that they are ready for extension by their performance in class. When this occurs, customization for the individual learner is just a natural fit as their learning needs to move beyond what the teacher intended and planned for every student. Personalized learning provides the framework and discussion starters for teams looking to determine what to do for this type of learner. It further encourages a classroom culture in which students are encouraged to stretch their learning, engraining in students what Carol Dweck (2006) refers to as a growth mindset—a belief in the idea that intelligence can be developed rather than simply inherited. [AQ: Addition OK to introduce growth mindset early on before readers encounter references in passing?]

This philosophy and type of thinking goes beyond asking students to read quietly, help a struggling student, or just hang out while others get caught up. Personalized learning (and its five elements) is a wonderful tool to ensure question 4 students in
every grade band from kindergarten through senior year are successfully extending their learning beyond the learning targets.

**The Case for Personalized Learning**

When leading conversations about why we advocate for personalized learning and its connection to question 4, we enjoy starting with a simple activity in which we ask participants to recall a time when they, as teachers, had students who were totally tuned out and unengaged with a lesson because they already knew the content, and a time when a student was ecstatic about and very engaged in what they were learning because the teacher respected what they knew about the subject matter. For example, one author, Mark, remembers his first year of teaching eighth grade American History. As perhaps many first-year teachers would be, he wanted to follow the rules and be seen as a good teacher. Many of his units were geared around discussions and lecture about the textbook readings, which would typically be followed up with some sort of activity or simulation, and conclude with a type of assessment. There was one student who was an American Civil War enthusiast. When it came time for the units and activities around this topic, Mark didn’t quite know what to do with him. He would routinely interrupt the classroom conversations to share cool and interesting facts and bring in various artifacts he had collected. While the student was able to share his excitement and knowledge in some ways, there is no doubt that he was bored or at least not given an opportunity to shine or extend his learning. Looking back, offering personalized learning opportunities based on the elements and strategies we feature in this book would have been far more valuable for this one student.

**INDIVIDUAL REFLECTION**

Think of a time when, as a teacher, a student you were working with was tuned out and unengaged with a lesson because they already knew the content.

We would argue that, like many question 4 students, he played along with what the rest of the class was doing even though he personally didn’t get much out of it. He could have been far more engaged if his teacher had worked with a collaborative team that intentionally and deliberately had planned for ways for him to extend his learning since he already knew the content. Perhaps this student could have presented on a certain battle or chosen an independent project to work on and develop over the three-week unit.
Conversely, we recall an example of heightened engagement when one of the authors was working with his son, who was learning about force and motion in his fourth-grade classroom. [AQ: Identify author?] He had previously passed the classroom assessment, which covered the material during whole-group instruction. Not needing additional direct instruction, his son had the opportunity to extend his learning with an activity that was very similar to one done by sophomores in that district’s high school. The son brought home a balloon and said that by the end of the week, he needed to use household items to make a vehicle, and students would win prizes for the vehicles that went the farthest distance. The balloon would ultimately serve as the one energy source that would provide propulsion to the vehicle that he would be creating. For three days, the author watched his son perform various trial-and-error activities to get things just right. After using just the right aerodynamic box, pencils to serve as axles, and old CDs as wheels, the son proudly obtained a third-place finish out of about one hundred fourth graders who completed the activity. The boy profoundly commented, “I was just really proud of myself. I don’t know why. I want to do more of that kind of thing.” Interestingly, the next day, his kindergarten-age brother saw the excitement and energy in his older sibling and was busy making his own vehicle out of household items. Mark’s son was given an opportunity to show that he knew the material (which involves personalized learning elements of knowing learners and using data), allowed to extend his learning, given voice and choice in how he wanted to construct his vehicle (which involves voice and choice), used technology to generate ideas (which involves integrated technology), exercised a growth mindset as he went about multiple trial and errors to make sure his creation would be competitive (which involves flexibility), and got to share his final product in a competitive environment. If we can provide personalized learning opportunities like these to question 4 students, everyone wins.

### INDIVIDUAL REFLECTION

Think of a time when, as a teacher, a student you were working with was excited and engaged with the content because they were allowed to extend their learning.

It’s likely that student you thought of in the preceding individual reflection was one who, when he or she was engaged, just worked—not because the student had to, but because he or she wanted to—and time passed quickly the student. Learning didn’t just happen to this student; he or she took command of it. This is what Russian researcher Mihaly Csikszentmihalyi (2008) calls flow. Csikszentmihalyi
(2008) finds that our best moments occur when we are completely absorbed in an activity, particularly when those activities help us explore our creativity. *Flow* describes that feeling a person gets when they are totally locked into a task and make progress with what feels like effortless movement. (Csikszentmihalyi, 2008).

As educators, we know what *flow* is, but it is a challenge to get to it. Using the five elements of personalized learning and making them a regular part of collaborative team discussions is a wonderful way to intentionally and deliberately create opportunities for students to be more engaged and extend their learning. In our experience, question 4 students who aren’t being challenged or given additional opportunities typically just play along to just get by with minimal effort, or find something else to keep their mind occupied. As educators, we would never allow this with struggling students. It is our job as professional educators to give all students an intentional and engaging learning plan.

With any change in an organization, it is important to start with the *why* (TEDx Talks, 2009). Along with our personal experiences of being engaged and unengaged, the reality that no student is average, the technology- and personalized-rich era in which today’s learners have been raised, the ways in which emotions impact learning, and the connections of personalized learning to deep research help make a strong case for why we advocate for personalized learning as a tool to extend learning.

**The Myth of Average**

The myth of average presents a compelling case for personalized learning. In a 2013 TED Talk, Todd Rose, a Harvard professor and former high school dropout, describes the design principles that guided the work of the U.S. Air Force in the early 1950s (TEDx Talks, 2013). The Air Force used fighter jets with cockpits made for the *average* pilot from the year 1926. Thinking that perhaps pilots were just bigger than they used to be, it was determined that new specifications for planes would be needed, based on ten different physical traits. Air Force researchers, at a base in Ohio, measured thousands of pilots to find this new average. In the end, not one of the 4,063 pilots were average in all ten categories. This finding transformed the way the Air Force began to builds jets (Rose, 2106).

The pilots might have been above average in some areas, average in others, and below in still others, so the manufacturers had developed jets for literally nobody. In a bold move, the Air Force called for companies who built planes to no longer build for the *average* but to *design to the edges*, which called for designing planes that could be personalized for pilots, so pilots of various sizes could fly (TEDx
Talks, 2013). Because of the new cockpits, pilots were more successful and the pool for pilots expanded. Rose’s (Ted TALKS, 2013) presentation gets to the point: when you design for the average, you design for no one. Rose (Ted TALKS, 2013) then connects this story to education, noting that classrooms are the “cockpits of our economy.”

Often in education, we plan our instructional activities around what we consider to be the average. Teachers we know have shared with us that, realistically, in typical learning and lesson plan creation, whether alone or as a collaborative team, conversations center around average students who have struggled to learn the material. Hardly any mention is given to the question 4 student. When we plan in this way, we are not really planning for anyone. To further illustrate the myth of average, use the tool in figure 2.1 (page xx) to rate your aptitude on several characteristics educators tend to value in students.

| Individually, reflect on how you would rate yourself in each of the following categories, with a score of 1 being very low and 5 being excellent. |
|---|---|---|---|---|---|
| Memory | 1 | 2 | 3 | 4 | 5 |
| Language | | | | | |
| Knowledge | | | | | |
| Reading | | | | | |
| Vocabulary | | | | | |
| Curiosity | | | | | |
| Perceptual | | | | | |
| Cognitive | | | | | |
| Interests | | | | | |

Now, add up your columns and divide by 9. What is your average?

How many items did you rate yourself as average (3)?

**Figure 2.1: Personal rating exercise.**

Visit go.SolutionTree.com/PLCbooks for a reproducible version of this figure.
Personalized Learning

When we do this activity with groups of educators, it is interesting to see that those who consider themselves to be average are, like the pilots, not average in many areas. For those with an average overall score, it is not uncommon to see only one or two individual areas that actually represent the average. Our students are no different. So, like Rose (TEDx Talks, 2013) suggests, when we plan for the average or the middle, we are not serving the needs of anyone. Personalized learning is a wonderful way to consider designing to the edges.

Our Students’ Immersion in Technology

As of 2018, all K–12 educators teach students born after the year 2000. What are some personal characteristics you believe to be true about students today that are different from when you were a student?

The students of this generation have much different backgrounds and upbringing than many of the people reading this book. First, because these students have always had access to technology that quickly responds to their needs, they have had their entire lives personalized; they have been able to access anything they want on a moment’s notice in the way they want. A colleague of ours has a daughter with a 1998 birthday who is a college freshman. His daughter was born the year Google became available for public use. Students in college have literally not been alive for a day when they couldn’t just google the answer to a question. In fact, many young adults live their entire lives through social media; it didn’t happen if it wasn’t published to the world. Unlike this book’s authors’ generations, these students have full-text articles and books, and experts on social media just a click away.

Educators reading this book probably remember watching television shows like The Brady Bunch, Happy Days, Family Ties, or The Fresh Prince of Bel-Air with their families and also watching whatever their oldest siblings were watching. We remember when there was one TV in the house and the family watched together. Then, the youngest child in the family didn’t have a say in what to watch and was not allowed to change the channel to something else. Now, because of handheld technology, in some families the youngest doesn’t even use the main TV in the family room. They are watching another TV or are using their own devices, watching the shows they want when they want, with no commercials. Tom Murray (2017) calls this generation the Netflix Generation, a term to describe students who use newer platforms like Netflix and YouTube for entertainment. Murray (2017) makes the connection to this idea by calling out a challenge to our profession: “If our existing mindset is
that our job (as teachers) is content delivery, we have to realize that we are being outsourced by YouTube.”

Nearly everything else with technology is personalized as well. We authors remember, when we were much younger, buying our music on tapes, records, and CDs and trying to enjoy all the songs that came on the album with the one hit song we actually liked. However, when we choose songs we like on iTunes, we don’t have to order the rest of the album, and as the app begins to learn our tastes in music, it shares potential songs to buy based on what it knows about us. If someone does a search for a product that he or she finds interesting, that person will suddenly see many ads appear with these items when he or she uses other sites such as social media. Netflix similarly recommends shows for us to watch based on what we’ve already viewed. Whether it is watching television, ordering products, or listening to music, we are all used to and expect personalization.

**Emotions and Learning**

As authors, we had the chance to sit in on a series of conversations with Mary Helen Immordino-Yang, associate professor of psychology at the Brain and Creativity Institute at the University of Southern California. Two of us authors enjoyed professional opportunities that allowed us to meet with Immordino-Yang on multiple occasions from 2015–2017 and speak with her personally on the topic of emotions and learning. In these conversations with us, Immordino-Yang convincingly shares that all learning is emotional (personal communications, 2015–2017). When educators recognize that people only think deeply about things they care about, it becomes clear that asking students to recite or recall facts may not be the most effective strategy. In fact, in her studies on individuals with certain brain injuries, Immordino-Yang (2016) finds that when learning is devoid of emotion, being able to apply what was learned in a novel situation does not happen (Damasio, 1999; Fischer & Biddell, 1998). In other words, proficient and advanced students that learn how to play the school game, sit quietly, and get through the traditional tasks of schools as quickly and efficiently as possible are likely going to struggle when it is time to apply their learning outside of school. Teaching and learning with the end goal of a good grade on the material from the book is less effective and lacks the emotional aspect of learning. This embodies the old saying that someone is “book smart, but not street smart.” To challenge and push learners, especially those question 4 students, it is our job to make learning emotional and to connect their learning to what they will need to know and be able to do outside of the classroom.
Emotion and cognition go hand in hand. In education, we ask students to learn, pay attention, remember, make decisions, motivate, and collaborate with others. Emotion affects all of these important learning factors. The question isn't whether we should pay attention to emotions. For educators the question becomes, How do we leverage the emotional aspects of learning in education?

Immordino-Yang (2016) shares another key finding: the toggling that takes place when the brain is looking out (actively learning) or looking in (resting). While we all know the brain is never truly at rest (it is always working to keep us alive and manage biological functions necessary for life), we do have times when we turn off external stimuli and rest our brains to a certain degree. Day-dreaming, reflecting, and just thinking are key components of what takes place when we turn off the external stimuli. In listening to and reading study after study (Buckner & Vincent, 2007; Esposito et al., 2006, Fox et al., 2005; Raichle et al., 2001; Seeley et al., 2007) cited in Immordino-Yang's (2016) work, it seems logical to suggest that it is important for educators to consider providing students the opportunity to spend time looking out and looking in.

While we certainly don't want to make a claim or post the headline that says, “Neuroscience says personalized learning works,” we do feel validated because what we know about the connection between emotions and learning supports the personal learning strategies we describe in this book. In personalized learning, teachers give students opportunities to emotionally connect with what they are learning and time for self-reflection. Based on all that she has done in the field, we asked Immordino-Yang what her ideal classroom would look like. She shared that her ideal classroom, which would of course look different in each environment, would be one where all students are engaged and generally willing to share what they are doing. Students may say they are doing great, not doing great, or just doing OK, but they would know why this is so and what it would take to do better (M. Immordino-Yang, personal communication, April, 2017). Immordino-Yang also said in her ideal environment, the teacher would be able to tell you one thing about which each student is an expert. To us, this sounds a lot like personalized learning.

**Research on Personalized Learning**

While there is not a great deal of research about personalized learning, the limited extant research is promising. Some specific studies include a 2014 Bill and Melinda Gates Foundation report featuring RAND Corporation research and a 2015 follow-up report (Pane, Steiner, Baird, & Hamilton, 2015). The two-year study

30
(Bill and Melinda Gates Foundation, 2014) includes five thousand students attending twenty-three charter schools that began implementing personalized learning in 2012. There are some promising results, as gains in mathematics and reading scores are significantly higher than a comparison group’s. Effect sizes are .41 in reading, and .29 in mathematics (Bill and Melinda Gates Foundation, 2014). Note that effect sizes allow researchers looking at others’ work, to compare their results, even if they used different statistical measures. Effect size predicts whether or not the strategy would work and it helps predict how much range in the scenarios.

In a 2015 follow-up report, the RAND Corporation uses a larger study of sixty-two schools involving more than eleven thousand students, which again reveals gains in mathematics (.27) and reading (.19) when compared to control groups (Pane et al., 2015). Perhaps even more promising, the 2015 report states the schools in the original study continue to see gains, and those who had the most growth are students who began with lower achievement levels. A 2017 report (Pane et al., 2017) notes that schools who were awarded funding through the NGLC (Next Generation Learning Challenge) experienced positive achievement effects in mathematics and reading, with statistical significance in reading, and that levels of achievement relative to grade-level norms appeared to benefit.

Additionally, Jim Rickabaugh shares impressive data about work from districts in Wisconsin (J. Rickabaugh, personal communication, March 4, 2017). He notes that in an unpublished report from the personalized learning organization CESA, where he served as project director, there are specific examples from three different districts showing increases in projected growth in areas such as mathematics and reading on Northwest Evaluation Association Measures of Academic Progress tests after incorporating personalized learning strategies. [AQ: The personal communication citation implies that the report information was conveyed through this personal communication. Also, I cannot locate this report anywhere online or find evidence of its publication. OK to introduce as unpublished and cite personal communication for references to the report? Please also ensure the organization name and Rickabaugh’s connection to the organization are listed correctly here. Thanks.] In the study cited in this report, all seventh-grade students were evaluated by how they performed on the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) assessments. [AQ: Edits to clarify what “MAPS testing” referred to. Please verify this is correct. Thanks.] This is significant, as even the top performing students were measured for academic growth. In this example, 73.6 percent of the students saw growth in their own learning. In
another middle school implementing personalized learning strategies, a significant number of students completed top-level mathematics courses and were ready for pre-calculus when they entered high school. In yet another middle school, a district with scores typically above the eighth grade normed referenced test, data indicate that at each grade level at the middle school, students, even the top performers, showed an average 25 percent growth in college readiness in English, mathematics, reading, and science. The report also shares qualitative findings that reference the power of personalized learning.

While it would be wonderful to have a broader range of research that specifically ties to personalized learning, the best case for the topic comes from Professor John A. C. Hattie’s (2009, 2015) work, which includes a great deal of deep research that reflects the underpinnings of personalized learning. Hattie, who many consider to be the most influential education researcher, regularly updates a ranked list of the influences that impact student learning (Visible Learning, n.d.b). Of the top items, we find the ones in the following list to be in direct alignment with personalized learning. Note the numbers in parenthesis are the effect sizes. Hattie determines that the average effect size of all the strategies or interventions is 0.40. The list ranges from 1.62 (teacher estimates of achievement) at the top to -0.9 (physical influences of ADHD) at the bottom.

- **Teacher estimates of achievement (1.62):** Teachers knowing their learners, developing a plan to ensure student success, and then following the plan

- **Self-reported grades (1.33):** Teachers getting to know learners by learning what the students’ expectations are, and then working with the students to exceed them

- **Cognitive task analysis (1.29):** Instructional strategies that require a lot of cognitive activity from the learner and include items such as decision making, problem solving, memory, attention, and judgment

- **Strategy to integrate with prior knowledge (.93):** In order to acquire deeper learning, deliberately activate prior knowledge and then make relations and extensions beyond what students have learned at the surface phase

- **Teacher credibility (.90):** Students perception about whether or not the teacher is high quality
Teacher clarity (.75): Teachers providing a clear explanation about what is expected of students (goals and success criteria) before providing instruction

Feedback (.70): Teachers providing immediate feedback, which aligns very closely with formative assessment, to learners to maximize student learning; this also includes feedback from the student to the teacher

While these items do not specifically mention personalized learning, the teacher actions they describe are in close alignment with the five elements of personalized learning you will learn about in the upcoming chapters. It is hard to argue against personalized learning when deep research so clearly aligns with this work.

Further, in conversations with teachers who are implementing personalized learning, we continually see and hear about how it ignites student learning. It is hard to measure what a teacher is telling us when she says, “I just feel it,” but the students’ energy, engagement, and excitement to learn are palpable.

Just as important, the students aren’t the only ones who benefit from this approach. In reference to personalized learning, one teacher we spoke with stated, “The spark is back.” The teachers we talk to are enjoying their roles as mentors and team members in the learning process. Not all learning has to come from the front of the classroom.

Next Steps

At this point, you and your team have developed some common definitions and understandings around personalized learning and why you should consider implementing it. In the upcoming chapters, you will learn specifics about each of the five elements of personalized learning to better support your understanding of this topic, which will provide you with tools to address PLC critical question 4. Before you move on to the next chapter, use the reproducible “Individual Reflection: Ranking Reasons for Personalized Learning” (page XX) to reflect on the arguments this chapter makes for using personalized learning. Then, as a collaborative team, use the reproducible “Collaborative Team Discussion: Personalized Learning” (page XX) to reflect on how your team defines personalized learning, your examples of engagement and lack of engagement, and your thoughts regarding the arguments for personalized learning.
Curriculum Compacting

Sally M. Reis and Joseph S. Renzulli (n.d.) note that curriculum compacting is an instructional technique that is specifically designed to make appropriate curricular adjustments for students who are capable of mastering the regular curriculum at a faster pace in any curricular area and at any grade level. This procedure that can be used for students who display a strong understanding and knowledge of the subject matter and mastery of the standard or benchmark the class is working toward achieving. Students who compact out of a standard or benchmark are those who have demonstrated that they know the material. The collaborative team should use PLC question 4 to determine the academic activities they should provide to these question 4 students who are ready to go deeper into the standard and benchmark. During instruction time, these students pursue different learning activities from the rest of the class that are often more authentic and project oriented, and usually more independent and student directed. The teacher must use their professional judgment to determine if the student already knows the content. The process includes three steps: (1) identifying the standards and indicators to be taught and eliminated, (2) identifying students who would be candidates for compacting through previous tests, classroom participation, and preassessments, and (3) determining a suitable replacement activity for the standards that will be compacted. A curriculum compactor tool could be used as a sort of contract between the student and the teacher to ensure that both sides are clear on the expectations of the learning activities that will be taking place. Visit https://bit.ly/2JXdTeA for an example of such a tool.

There may be slight differences in the ways teachers use curriculum compacting in elementary versus secondary classrooms. In the elementary classrooms, teachers may rely more on pretest and common assessments whereas in a secondary classroom they may rely more on their previous experience with a student. Since the secondary content may be more difficult and mastery may not be evident in a pretest, a teacher can use their observations and knowledge of individual students to determine which students are able to digest and master the content more quickly than others.
Students identified for compacting are then able to engage in a variety of activities to extend and direct their own learning. Activities could include alternative reading assignments, independent investigations, and independent projects that are related to the standard but that might also integrate other content areas and standards. For instance, a mathematics assignment on making change using U.S. currency could be extended to include a project comparing U.S. currency to that of other countries.'

The extant literature and our own experience conclude that curriculum compacting increases student and in most cases teacher engagement. Lisa S. Stamps (2004) study reflects that first graders who experienced curriculum compacting exhibited positive attitudes toward school. In fact, they shared more information about what they were doing at school with their parents than other students not experiencing curriculum compacting. According to the National Association for Gifted Children (n.d.), curriculum compacting can help high-achieving students avoid frustration and boredom that may lead to underachievement. Further, they mention that there are no differences in the academic outcomes for those who skipped curricular assignments and those who completed each assignment. Students who had mastered the content and whose teachers eliminated assignments and provided extended learning opportunities said their learning was more rigorous than it was before their teachers used compacting. Finally, practitioners across the United States have personally told us over and over that their students who experience curriculum compacting develop a mindset where they feel they could accomplish their goals and were willing to work harder to be successful. Student efficacy and student ownership for learning increased when student learning was extended through curriculum compacting. Before moving on to read about the next instructional strategy, take a moment to reflect on table 3.1 (page xx), which highlights how curriculum compacting directly relates to each of the five personalized learning elements.
Table 3.1: Curriculum Compacting and Its Connection to Personalized Learning

<table>
<thead>
<tr>
<th>Personalized Learning Element</th>
<th>Connection to Curriculum Compacting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing Your Learners</td>
<td>Identifying the students who would best benefit by being given the opportunity to have the curriculum compacted in order to benefit by extended learning requires knowing your learners. This is done by intentionally learning about and observing each student to understand his or her strengths, interests, and talents.</td>
</tr>
<tr>
<td>Allowing Voice and Choice</td>
<td>The teacher and student, together, determine the extension activities that will meet and allow for a deeper understanding of the required standards, benchmarks, and indicators for the lesson or unit.</td>
</tr>
<tr>
<td>Implementing Flexibility</td>
<td>The teacher and student work in a flexible manner to co-develop the best learning plan for the individual student. Grouping and work space could be flexible depending on the chosen activities.</td>
</tr>
<tr>
<td>Using Data</td>
<td>Teachers make data-informed decisions based on students’ performance on past assignments, preassessments, or classroom observations in real time when choosing which students will participate in curriculum compacting.</td>
</tr>
<tr>
<td>Integrating Technology</td>
<td>Technology integration makes compacting by providing ways to modify and redefine learning. Students will be encouraged to think critically while creating new content and then communicating it locally, regionally, nationally, and globally using technology.</td>
</tr>
</tbody>
</table>
Flexible Grouping

Flexible grouping provides opportunities for students to participate in a range of instructional groups that may be organized as homogeneous or heterogeneous groups in a whole-class setting or in small groups or learning partners. In flexible grouping, assignments may also vary from very specific to very independent and may be student selected or teacher selected (Cox, n.d.; Wisconsin Department of Public Instruction, 2011b). The idea of grouping students is a strategy that has been used for generations and has evolved greatly in the last generation. In the late 1980s and 1990s, the idea of ability tracking fell out of favor. The idea of heterogeneous grouping became a favorite because it was clear that ability grouping limited access and achievement of those labeled low achievers, and that those labeled high achievers could function very well in heterogeneous environments. As those of us working in schools strived to create more access, we began to understand that students were not all the same (Oakes & Lipton, 1990).

The evolution of ability grouping included flexible grouping within classrooms that allowed like-ability students to be together for at least part of the day and also increased access since different students would be grouped based on ability and skills identified through classroom formative assessments. Today, we see the idea of grouping taking several forms, but the underlying motive of this practice is to increase access and achievement of all learners. In this book, we’ll concentrate on applying this to question 4 students or students who already know the content and are able to be grouped together based on the content area. As you read this section, recall Todd Rose’s ideas about the myth of average (Rose, 2016; TEDx Talks, 2013). We do not know any “average” students.

Flexible groups should be based on several data points so that all students have the opportunity to demonstrate knowledge and at some point be grouped in the high group. We authors first saw this occur in the use of enrichment clusters, which is part of the Schoolwide Enrichment Model (SEM; Reis & Renzulli, 2016; Renzulli & Reis, 2016), a concept that calls for students to be grouped together based on their interests, talents, and strengths. In addition, this model also groups staff members in a similar fashion and asks them not to create a lesson plan but to facilitate students driving their own learning as they connect to state and district academic standards. See chapter 4 (page xx) for a deeper discussion of enrichment clusters and the SEM.

Flexible grouping allows collaborative teams to group students in ways that accommodate the high-achieving students but also allows teams to group all students in
ways that meet their needs. Marcia Gentry (2014) points out the many benefits of clustering and grouping students. She highlights that students are challenged at all levels of learning and, in the case of question 4 students, given rigorous activities that push them deeper into the content area. Another benefit is for students with like ability to be grouped together and interact and push one another’s thinking. Further, students learn to collaborate and work as a team—something future employers will value (S. Myer & K. Hughes, personal communication, 2018). Finally, the number students labeled as low achievers is reduced and those viewed as high achievers is increased. The benefit for teachers is that this also narrows the range (or gap) of achievement in the class-room, allowing teachers additional time to devote to question 4 students to increase their achievement and engagement. They are able to be much more efficient and are more willing to differentiate their instruction. Flexible grouping is critical, as there is no one-size-fits-all approach because there are no average students. Before moving on to read about the next instructional strategy, take a moment to reflect on table 3.2 (page xx), which highlights how flexible grouping directly relates to each of the five personalized learning elements.

<table>
<thead>
<tr>
<th>Personalized Learning Element</th>
<th>Connection to Flexible Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing Your Learners</td>
<td>Flexible grouping requires teachers and collaborative groups to understand their question 4 students and their readiness to move to more challenging tasks.</td>
</tr>
<tr>
<td>Allowing Voice and Choice</td>
<td>Flexible groups of students are able to self-select groups of similar interests. In addition, along with their instructor, they may determine the types of assessments, projects, and ways to demonstrate their knowledge acquisition.</td>
</tr>
<tr>
<td>Implementing Flexibility</td>
<td>Flexible groups allow students of similar interests, talents, and academic skills to work together at least part of the day. This increases student engagement and may provide a sense of accomplishment to those students.</td>
</tr>
<tr>
<td>Using Data</td>
<td>Teachers use data to group students based on academic skills, interests, and talents.</td>
</tr>
<tr>
<td>Integrating Technology</td>
<td>Technology allows students to be grouped virtually and for their learning to take place anywhere, anytime with their peers.</td>
</tr>
</tbody>
</table>
Multilevel Learning Stations

Learning stations tend to focus primarily on exploration and less so on knowledge acquisition, skill development or improved understanding of a topic. In this way, learning stations are different from what Carol Ann Tomlinson (2014) calls learning centers, which she explains is “a classroom area that contains a collection of activities designed to teach, provide practice on, or extend a student’s knowledge, skill or understanding” (p. 123).

Interestingly, however, learning stations are an approach where you see many of the strategies discussed earlier employed within the use of centers. For instance in this approach, teachers may flexibly group students, compact the curriculum or tier assignments, or ask students to produce a product.

Teachers should develop learning stations using Bloom’s (1956) taxonomy with several stations focused on the lower levels of knowledge and comprehension and others at the levels of synthesis and evaluation. Students are then grouped according to their readiness to work at those levels. Further, learning stations use blended learning, an approach that integrates technology with traditional instruction, by offering activities that students complete by using an electronic device and related software. Teachers are then released to focus on students in other stations as they guide them in their learning.
Learning stations may be used with all age groups, ability levels, and content areas in a developmentally appropriate manner. A teacher needs to use imagination and have good command of the content standards along with an understanding of how to differentiate formative assessments. It is important that a teacher is willing to take risks and have an entrepreneurial spirit when developing learning stations. High-quality professional learning for teachers seeking to use this strategy is important so that student outcomes match our academic expectations.

Learning stations usually contain teacher-developed materials that promote student growth and engagement through a variety of activities on a continuum of challenge and complexity. However, we encourage teachers to incorporate student-generated materials with older and more advanced students. For instance, a student keynote presentation explaining the Declaration of Independence could be used to introduce the topic prior to discussion among the group’s members.

Learning stations are designed with an academic focus at a variety of levels to allow students to work at or near their zone of proximal development. Because the classroom is so busy with a variety of activities, students are not usually aware of the differentiated assessments or activities leading to improved student performance and engagement. Before moving on to the next chapter, take a moment to reflect on table 3.5 (page xx), which highlights how multilevel learning stations directly relate to each of the five personalized learning elements.

<table>
<thead>
<tr>
<th>Personalized Learning Element</th>
<th>Connection to Multilevel Learning Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing Your Learners</td>
<td>Teachers and students have an understanding of each student’s skills, abilities, interests, and strengths and are able to assign them to the correct stations.</td>
</tr>
<tr>
<td>Allowing Voice and Choice</td>
<td>Voice and choice is connected through multiple assignments and product development options for students to choose from, and instructional materials that are used at the learning station.</td>
</tr>
<tr>
<td>Implementing Flexibility</td>
<td>Flexibility in this area is found in how groups are organized and assigned to certain stations based on challenge and complexity of the activities of a certain station.</td>
</tr>
<tr>
<td>Using Data</td>
<td>Teachers use formative assessments to determine the station a student or group of students is assigned to when using this approach to differentiation.</td>
</tr>
<tr>
<td>Integrating Technology</td>
<td>Technology is integrated during blended learning approaches where students use a device as they complete the center’s activities.</td>
</tr>
</tbody>
</table>
Product Choice

*Product choices* are opportunities for students who know the content to construct and apply their knowledge using the standard being studied. Students understand their learning styles, strengths, and skills and use them to develop products aligned with the standards and benchmarks that make up the unit of study. Jaime Casap, Google’s chief education evangelist, explained in a keynote at the 2015 Education Elements Personalized Learning Summit that teachers should be asking students what problem they want to solve, not what they want to be when they grow up (Education Elements, 2015). He went on to say that educators should help students develop those talents and skills to accomplish their goal.

*Product choice* is a perfect design for those students who already know the material. In this strategy, teachers guide learners to apply their knowledge in areas of interests, solve real-world problems, and create original content. The students know their skills and preferred learning styles and employ various art forms, writing assignments, and technology, allowing teachers and students to balance deductive and inductive models of learning (Renzulli, n.d.a). Renzulli (n.d.a) explains:

The Deductive Model is the one with which most educators are familiar and the one that has guided the overwhelming majority of what takes place in classrooms and other places where formal learning is pursued.
Renzulli’s (1977) enrichment triad model identifies investigations of real world problems and through the development of products or services for local and regional audiences as an appropriate type of enrichment for gifted students. For the purposes of this book, we will extend this enrichment type to all question 4 students. This model further supports the effectiveness of product choice as an instructional strategy. Renzulli (1977) explains how in this enrichment, young learners mitigate real-world problems such as developing an ADA-approved playground for students with disabilities. One of us authors has observed a middle school student develop a school weather station by working with a local meteorologist and can attest to the extension and excitement for all involved in seeing students solve problems or provide services that are needed in this way. Question 4 students who receive such opportunities develop confidence, own their learning, and persevere to accomplish their goals.

In addition, self-directed learning or open-ended learning opportunities with product choices allow students and teachers collaborate on the development of what we call a “stretch project.” Teacher and student choose from a menu of projects or design a new project that is aligned with the standard or in some cases is a completely different standard. Penny Van Deur (2004) explains that gifted students such as question 4 students prefer self-directed learning because they use strategies such as proofreading and project planning and improve their time management skills. These students also enjoy working outside the school and with mentors from the field of study.

Students who have mastered content enjoy the opportunity to drive their own learning by choosing the content they want to create, whether it’s through an investigation or a stretch project. They develop a growth mindset from product choice opportunities because they depend on their own skills and abilities. Before moving on to read about the next instructional strategy, take a moment to reflect on table 3.4 (page xx), which highlights how product choice directly relates to each of the five personalized learning elements.
Table 3.4: Product Choice and Its Connection to Personalized Learning

<table>
<thead>
<tr>
<th>Personalized Learning Element</th>
<th>Connection to Product Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing Your Learners</td>
<td>Teachers and students have an understanding of each student’s skills, abilities, interests, and strengths.</td>
</tr>
<tr>
<td>Allowing Voice and Choice</td>
<td>Students are able to choose from a menu of products, investigate a problem of interest, or provide a service that is needed in the school or community.</td>
</tr>
<tr>
<td>Implementing Flexibility</td>
<td>Flexibility of choice of products allows students to develop a growth mindset (Dweck, 2006), take greater ownership, and feel a sense of accomplishment as they attain their goal.</td>
</tr>
<tr>
<td>Using Data</td>
<td>Teachers and students use various forms of data from a variety of sources to better understand student interests, examine real-world problems, and learn about people.</td>
</tr>
<tr>
<td>Integrating Technology</td>
<td>Using technology is an important aspect of allowing students to apply their knowledge and create original content when solving problems, and show their learning.</td>
</tr>
</tbody>
</table>
Tiered Assignments

*Tiered assignments* is a strategy in which all students are working toward the same learning goal, standard, or concept, but the assignment or assessment is designed toward each student’s level of understanding and academic skills. This strategy is best used when question 4 students are studying similar standards and benchmarks that the rest of their classmates are studying (Heacox, 2002). Diane Heacox (2002) explains teachers may tier assignments in six different ways, but each approach is focused on helping question 4 students to remain stimulated and engaged with classroom activities. Let’s look at the six ways assignments can be tiered.

1. **By challenge level:** Teachers who tier their assignments according to academic challenge use Bloom’s (1956) taxonomy as a guide and can design lessons at various challenge levels from similar content. At the lower level, lessons are designed for knowledge and comprehension whereas higher level activities incorporate activities that synthesize and evaluate the content being studied. For example, a social studies teacher might ask students to evaluate the similarities between the American Revolution and the Vietnam War and discuss the similarities and differences.

2. **By complexity:** Teachers focus on student readiness and design lessons for some students that are introductory in nature. For other students, the lesson is designed to be more abstract and considered advanced work. Teachers must guard against merely assigning more work for question 4 students and focus on open-ended assignments where these students are able to construct meaning while using their strengths and interests to complete the assignment.

3. **By resources:** This strategy is employed mostly with reading levels, so students are able to find their zone of proximal development—what Lev Vygotsky (1978) identifies as an individual student’s challenge zone based on what he or she can do without help and what he or she is capable of learning with some guidance and instruction—but are participating in the same or a related learning activity (for instance, literature circles where students read leveled books on the same topic).
4. **By assessment:** Teachers usually ask students to use the same materials (such as mathematics manipulatives), but what students do to demonstrate their knowledge is different. Flexible mathematics groups can include ones created for question 4 students who are asked to go deeper and demonstrate greater understanding of the material. By using fractional magnets, for example, the teacher can have higher-level students see how many different fractions combinations they can create and then reduce using the various manipulatives instead of merely grouping the various manipulatives into fraction groups.

5. **By process:** In this strategy, students are working on similar outcomes while using different processes to accomplish the goal. Here, teachers might have question 4 students compare and contrast information instead of assigning less challenging activities such as charting or ranking information. A social studies teacher might ask students who mastered content to compare and contrast the reasons for the American Civil War whereas other students might be asked to list reasons for the war.

6. **By product:** Finally, we will go deeper in this strategy later in the chapter, but teachers also tier by learning products. In this approach, teachers group students by learning preferences and styles. Because students are grouped by these preferences, they develop outcomes based on these individual styles, so some students create a musical outcome, others a video, others write a paper, and so on (Heacox, 2002; Tomlinson, 1999).

Tiered lessons enable teachers to allow students to differentiate the curriculum while studying the same topic and find the zone of proximal development and challenge for all students—especially those who have mastered the content. We encourage teachers to seek professional learning opportunities to ensure strong knowledge of this strategy prior to its implementation to ensure the desire impact for students who would benefit from this approach (Richards & Omdal, 2007). Before moving on to read about the next instructional strategy, take a moment to reflect on table 3.3 (page xx), which highlights how tiered assignments directly relate to each of the five personalized learning elements.
# Table 3.3: Tiered Assignments and Its Connection to Personalized Learning

<table>
<thead>
<tr>
<th>Personalized Learning Element</th>
<th>Connection to Tiered Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowing Your Learners</strong></td>
<td>When using tiered lessons, teachers must know their learners so they determine the appropriate time to implement a tiered lesson, leading to increased learning and engagement.</td>
</tr>
<tr>
<td><strong>Allowing Voice and Choice</strong></td>
<td>Voice and choice is critical when assigning tiered lessons. In many cases, students collaborate with teachers to determine modifications to the lessons.</td>
</tr>
<tr>
<td><strong>Implementing Flexibility</strong></td>
<td>Flexibility is at the heart of tiered lessons. Teachers and learners remain flexible while students learn similar content but at different levels of complexity, challenge, and process.</td>
</tr>
<tr>
<td><strong>Using Data</strong></td>
<td>Teachers use data such as those from common formative assessments when making decisions on which students should be assigned to which tier and when.</td>
</tr>
<tr>
<td><strong>Integrating Technology</strong></td>
<td>Teachers are able to integrate technology into the tiered lessons for students. Technology is helpful to create more complexity, challenge, critical thinking, and problem solving opportunities for learners.</td>
</tr>
</tbody>
</table>
A Journey to Understand and Implement Personalized Learning

Several years ago, I was selected by the Lexington Institute for their initial leadership cohort, which focused on the implementation of personalized learning. It was a tremendous honor and a great learning experience for me. It is where I first met Anthony Kim and became aware of Education Elements. Over the next year, myself and a team of colleagues were involved in a series of phone conversations with districts from around the country and ultimately visited with other Lexington Institute Fellows in Juab, Utah. While the district team I led was well into its journey towards personalized learning for all students, this experience extended our thinking and mastery on the best ways to transform learning.

Ed Elements played a critical role in my learning and in our district's continued evolution in implementing personalized learning approaches. What I learned nurtured our leadership team as we clarified a definition of personalized learning that aligned with our strategic plan. Westside's definition is:

*Personalized learning is an instructional approach designed to nurture learners to discover and broaden the ways in which they learn best so that they may become independent learners committed to learning by encouraging student choice, voice, and interests to master the highest standards possible in a relational environment.*

Moving forward, my colleagues and I identified five elements needed to personalize learning. Through conversations with other Lexington Institute Fellows, we clarified our thinking that, for teachers to implement a customized or personalized approach in their classrooms, different combinations of these "Elements" were essential. I spoke with educators from across the country to better understand how they used these components. I also sought insights from those in the field to understand how important these elements were to personalizing learning. I learned that in a typical classroom, teachers used these elements in combinations depending on the needs of their
students. The five elements we identify are:

1. Knowing Your Students
2. Allowing Voice and Choice
3. Implementing Flexibility
4. Using Data
5. Integrating Technology

These five elements have become the foundation of our work around personalized learning. In any change process, having a common vocabulary and vision for what is expected is a critical aspect of success. Following is an overview of each of the five elements:

**Knowing your students** is the cornerstone for teachers to build relationships needed to personalize learning. I learned from my own success as a classroom teacher implementing the Reis and Renzulli (1997) Schoolwide Enrichment Model (SEM), that getting to know your students is critical. Additionally, by leading Professional Learning Communities (PLC) developed by Dufour and Eaker (1998), we understood that to answer the four critical questions of a PLC at work, a collaborative team needed to know their students and know them well.

Providing opportunities for student **voice and choice** within the classroom is the most critical element to engage and develop independent learners. Voice and choice that allows students to drive their own learning and make instructional decisions is fun to watch. Yes, it must be aligned with standards and benchmarks but, when done properly, students demonstrate an ownership not seen in traditional classrooms. In fact, a teacher told me that after providing for voice and choice in her classroom, a parent told her this was “the best year my child ever had in elementary school.”

**Flexibility** within the classroom allows teachers to group students in multiple ways and to use classroom space in ways not imagined just a few years ago. However, developing flexible mindsets is the most important aspect of this element. Dweck (2006) points out that students who have a growth mindset will have greater student agency and efficacy leading toward independence. A teacher in Ohio told me that her eighth-grade students “grew in confidence” when allowed to extend their learning. Her thinking around academic deadlines for students became flexible and was based on when they mastered the standard and demonstrated their best work.

The **use of data** is important for teachers to make real-time decisions when personalizing learning. By tracking both formative and summative assessments, teachers are able to make personalized instructional decisions that influence all other elements. A teacher outside of Kansas City, Missouri told me that she was able to extend the learning of her students because, with technology, she “can more easily differentiate her classroom activities.”
by integrating technology into our classrooms, teachers have a tool that they may use when appropriate to customize learning for all. The technology is certainly helpful, but it is the teacher who integrates these elements into a personalized learning environment for all students in a coherent manner. I am fortunate to work in a district that implemented a 1:1 learning initiative, with the support of the community, to place a device in the hands of all students – kindergarten through grade 12. Consequently, the staff is able to integrate technology and personalize learning by using specific applications that meet each student’s needs.

Our journey into personalized learning was driven by the connections we saw as we worked with faculty and staff to implement this approach for all of our students. We also noticed how personalized learning fit well with gifted education strategies such as SEM. From our friends at the Renzulli Center for Creativity, Gifted Education, and Talent Development, we gleaned five key gifted teaching strategies that teachers can use when extending learning for all students. Those strategies are:

1. Curriculum Compacting
2. Flexible Grouping
3. Tiered Assignments
4. Product Choice
5. Multilevel Learning Stations

These strategies all have connections to the five elements of personalized learning. Additionally, they are great tools for teams who struggle with knowing what to do for students who already understand the material being taught in class. This concept, which is identified as question four of a Professional Learning Community, is one that is often forgotten by collaborative teams, many times because they aren’t quite certain what they are supposed to do. We have found that teams who are grounded in the concepts of personalized learning and use the five most effective gifted education teaching strategies in their classrooms are successful in meeting the needs of all of their students. It became clear to our team that, by using collaborative PLCs, it was easier to scale a personalized learning approach for all students. Teachers were able to see where the philosophy and strategies fit into their daily work.

We now see faculty and staff incorporating the five elements and five key strategies into their lessons that not only extend learning for students who have mastered a subject, but that also offer support for students who may have fallen behind their classroom peers. The elements apply to all students, whether they are gifted, struggling, or making progress as they should. We believe that we can change the trajectory of every student when we view them through the lens of the five elements to personalized learning.


DEFINING SUCCESS

Recently, I reread Malcolm Gladwell’s Outliers (2008) and I was struck by how he viewed success in the United States. We forget that much of individual success is built on hard work, with a focus on what we enjoy doing. We see successful people and call them lucky. Gladwell explains that many factors go into becoming a successful person, and Gladwell’s various stories and theories about success impacted me as an educator. In fact, it made me reflect deeply about how schools could increase the access and provide additional opportunities for all students to begin their work toward becoming an expert in an area of strength, talent, or interest.

As educators, we can and should play a role in supporting students and their success.

Yes, talent, commitment, hard work, opportunity, and when you are born does make a difference. My father was born in 1920. As it turned out, we all know where young men born at that time were in 1941-1945. They were fighting World War II. Gladwell also provides examples of successful hockey and baseball players who are given better opportunities to grow, along with access to better coaching, partly because of when they were born.

Additionally, the titans of Silicon Valley were born in 1954-1955. The examples of Bill Joy and Bill Gates show that they were afforded opportunities to try new things and to learn from failure: Bill Joy at the University of Michigan and Bill Gates at his private school in Seattle. They explored and spent time learning how to code and try out their theories in ways that other young bright people were not able to do at that time. Fortunately for them, they were living at a time and working in areas where they could spend hours on a computer due to time-sharing capabilities found in Ann Arbor and Seattle. Granted, they also worked very hard and learned from failure. But more importantly, they began to accumulate the 10,000 hours needed to become an expert in an area of interest that became a passion.

While Bill Gates and Bill Joy enjoyed opportunities to grow and to develop their talents, many of our students do not. As public educators, we understand that many minorities and disadvantaged students, due to underachieving schools, uninspiring teaching, and poor financial circumstances, do not have access nor are they provided opportunity to begin the necessary work toward becoming an expert. I recently read an article by Renzulli
and Brandon (2017) that outlined an approach to solving the under-representation of minorities and low income students in gifted and enrichment programs found in America’s public schools. It is critical to identify and instruct all students in ways that reveal their potential to their teachers and, more importantly, to themselves. We cannot wait until they are graduates before starting to work on the 10,000 hours needed to become an expert.

Much like Sir Kenneth Robinson (2009) states in his book The Element, understanding that you have a talent and an aptitude for something leads to success. It is not just luck or when you were born; all generations have unique opportunities. However, having access and opportunity to nurture that talent and aptitude is just as important to possessing that innate talent and turning it into a strength. In our school district, we use the Gallup Explorer with our learners so they may begin, at an early age, to understand themselves and turn their talents into strengths, taking advantage of the opportunities that may come along in their lifetimes.

I have learned through my experience as a superintendent and as an elementary and middle school principal that programs such as the Renzulli and Reis (1997) Schoolwide Enrichment Model (SEM) and Renzulli’s (2001) Academies of Inquiry and Talent Development (AITD) are essential for our youngest learners to begin their journey of becoming an expert.

I implemented both approaches in schools where I served as principal and superintendent. As the principal of John Bullen Middle School, I observed increases in attendance, positive behavior and, most importantly, student achievement. In fact, the cohort of African American students that transition to Bradford High School in Kenosha, Wisconsin saw the highest ACT scores among black students that school had seen in many years.

Why? We changed the mindset of those students by identifying them for gifted and enrichment programs and activities. Our faculty recognized our learners’ many talents and high potential and then nurtured students through SEM and AITD programs. These students realized that they could aspire to college, community college, or earn certifications that put them on a positive pathway to a career. They had begun the accumulation of 10,000 hours and felt very good about where they were heading. My most vivid memory is about a sixth grade student who became the “school meteorologist.” His focus and dedication to the field he loved led to a college degree in this area and he is now an associate researcher working on weather satellite systems at the University of Wisconsin.

Today, at Westside Community Schools we extend learning for many students through internships, dual credit opportunities, and our Center for Advanced Professional Studies (CAPS) in the areas of Information Technology, STEM education, and health sciences, creating opportunities for students to work closely with Omaha businesses.
I see the value of personalized learning for all students through the implementation of SEM and AITD. My colleagues and I see a relationship between personalized learning and gifted education. Working with Joe Renzulli, we continue to expand our definition of gifted and talented identification. In our district, we also talk about students with high potential so that we can provide access to robust academic programming and opportunities to become an expert. I am able to connect personalized learning, gifted education, and the PLC movement by using gifted strategies to extend learning for all students. While this includes identified gifted students, a teacher is able to serve many more students who demonstrate task commitment, creativity, and high potential. By knowing our students well, we gain a better understanding of what they enjoy learning about and we help them to do their best work on a daily basis. It helps teachers to nurture their strengths, talents and interests.

In my experience, SEM and AITD are the springboards for a school district to extend and personalize learning for all students and to combat the under-representation of underprivileged children who are often overlooked for gifted and enrichment programs. It is time to fully see all students and their individual talents so we may support them in their journey toward expert status. We do not want to miss the next generation of people like Bill Gates and Bill Joy.