



## Framework for Teaching and Learning

### Introduction

During the 2013-2014 school year, Spotsylvania County Public Schools (SCPS) adopted a new strategic plan. Leading up to the adoption, the Strategic Plan committee identified the following mission statement:

***Together, we prepare our students for their future.***

As we develop an action plan to achieve our mission, there is much to consider. How can we define the future? How can a large, dynamic K-12 school division like SCPS ensure that **all** of our students are prepared for **their future**?

The community that we serve is diverse and has increasing educational needs. Potential employers require skills that are not currently articulated in our curriculum or the Virginia state standards. Our students will compete with individuals from all over the world who possess high levels of collaborative, technical and problem-solving skills. Today, the job market calls for positions that emphasize innovative thinking, creativity and problem-solving. To prepare our students for the jobs of tomorrow, we must begin in our schools today. One way to do so is to provide for student-centered learning environments where tools and methods are implemented that allow for learning opportunities and instruction that is tailored to meet the needs and interests of each student, and to foster the skills and behaviors necessary to be future ready. Some opportunities include interest-based studies to include STEM, career-based courses, advanced courses, and flexible environments such as online and blended learning.

Instruction for student-centered learning is rigorous, well planned, and targeted. The SCPS Teaching and Learning Framework provides a foundation as we focus our teaching and learning practices to respond to student learning needs and provides connections between processes and practices already in place in SCPS to support our teaching and learning goals. Furthermore, utilizing the core values, vision, and mission of the Strategic Plan, the Teaching and Learning Framework leads us to an action plan to ensure that every student is prepared for their future. The Teaching and Learning Framework supports our Strategic Plan vision to inspire and empower all students to become *creative thinkers, problem solvers and effective communicators* by:

- ***Ensuring an engaging and supportive learning environment***
- ***Providing a broad spectrum of innovative opportunities***



The Framework for Teaching and Learning guides us as we consider why we teach, what we teach, and how we teach. Teaching and learning structures must be in place to support our *focus on the student* and provide him or her with the skills, behaviors and knowledge necessary to be future ready. While it is imperative that we be cognizant of addressing the Standards of Learning as they provide teachers with guidance on the content to be taught, we must *balance surface level learning with learning for deeper understanding*. This balance necessitates a robust toolbox of instructional strategies and authentic, flexible learning opportunities in our K-12 classrooms. As we target student learning and engagement, we must consider the following elements: learning environment, instructional planning, pedagogy, and assessment. Rigor, relevance, and relationships are embedded in the elements of the framework so that we may foster the skills and behaviors we desire in our students while providing the opportunities necessary for high levels of learning for every student, every day.



The Framework for Teaching and Learning begins with student learning as the focus for everything we do. This component, in the graphic above, identifies the skills and behaviors necessary to support and foster to ensure that our students are able to obtain knowledge and understandings, deepen their learning, and thus be prepared for their future.

**Communication** - Students effectively communicate orally and in writing, and use a variety of techniques and technologies to communicate with the intended audience. They listen meaningfully, provide feedback, and organize information for a range of communicative purposes.

**Collaboration** - Students work well in collaborative groups, share a collective responsibility for work, and understand the value of their individual contribution. They work effectively with diverse individuals, appreciate multiple points of view, and understand how to work together toward a common goal.

**Citizenship** - Students are respectful to self and others and responsible for their words and actions. They act with fairness and integrity, and are citizens who contribute to their communities.

**Critical Thinkers** - Students interpret and analyze information from different perspectives to make and understand arguments and draw conclusions. They reflect on the learning process and their progress toward learning goals in order to self-adjust and plan.

**Creative Thinking** - Students approach complex challenges with innovation and resourcefulness. They see existing situations in a new way and are able to generate novel ideas and solutions.

**Problem-Solvers** - Students draw upon knowledge and experiences to solve complex and unfamiliar problems individually and in groups. They construct questions that clarify and target solutions.

**Growth Mindset** - Students believe their abilities are not fixed, but grow through effort and hard work. They persevere through difficult tasks, obstacles, and failures and recognize the value and relevance of their schoolwork as it relates to the real world.

**Academic Literacy** - Students demonstrate mastery of content and are able to read, write, think, listen, and speak effectively applying these skills to each academic discipline. They understand thinking processes as they relate to content learning and utilize digital tools available to support their learning.

In our effort to focus on student-centered learning and to reach every student, every day, we must endeavor toward personalized learning. While difficult to define, personalized learning places students at the center of learning and tailors it to individual students' strengths, needs, and personal interests. All teaching and learning opportunities take into account existing knowledge, skills, and abilities; set high expectations; and push students in supportive ways to reach their personal goals. Classrooms that are student centered, and where personalized learning occurs, offer flexible environments and provide authentic learning experiences.



**Teachers as Designers of Learning Experiences**

The second key element of the Framework for Teaching and Learning focuses on the components to optimize student learning. This component, in the graphic above, identifies the skills and behaviors that we must support and foster to ensure our students obtain knowledge and understandings, deepen their learning, and thus be prepared for their future.



### **Student-Centered Learning Environment**

- **Build relationships**

When teachers foster relationships with students, parents, and peers, they enable tailored learning experiences that align with each students' needs, interests and backgrounds. Effective instruction can be supported by positive relationships or negated by weak and/or negative relationships in the classroom. Furthermore, when the teacher models and teaches mutual respect and interaction with one another, students recognize the worth of their peers' ideas and contributions. This in turn supports collaboration and communication. These relationships are an integral step in setting the tone for a positive, respectful, and purposeful learning environment.

- **Set the tone**

**High expectations:** In addition to building relationships, teachers set the tone for learning by establishing high expectations and encouraging perseverance. When teachers clearly communicate expectations and provide necessary supports, students achieve. High expectations are the most reliable driver of high student achievement, even in students who have not experienced success or achievement.

**Growth Mindset:** Inasmuch as establishing high expectations raises student achievement, establishing a growth mindset in the classroom sets the expectation and confidence that learning will occur. Individuals with a fixed mindset believe that their capacity is fixed and are less likely to persevere through a task. Those with a growth mindset, however, are oriented toward learning. They see failure as a learning

opportunity, that they can grow their abilities over time, and that expertise develops with persistence (Dweck, 2006).

- **Purposefully use space**

In order to create a student-centered learning environment, the learning space must be structured in a way that utilizes the space in its entirety for learning. Displays support learning and showcase student work. The room structure allows for flexibility, cooperative and individual learning, and connects students to digital learning experiences. In this way the teacher is able to plan for a wide variety of learning opportunities, facilitate discussions, and the class becomes both personalized and collaborative in nature.

- **Purposefully use Instructional Technology Resources**

Student-centered learning environments are active environments where the teacher guides the learning. Although the presence of digital tools and resources does not automatically transform the classroom learning environment into a student-centered space, the appropriate integration of digital resources supports self-directed learning and increased student-to-student learning experiences that are associated with student-centered learning environments. In addition, instructional technology equips students to independently organize their learning process (Moeller, Reitezs, 2011). Instead of being passive recipients of information, students using digital tools and resources have the potential to become active learners under the guidance of a teacher who designs student-centered learning experiences. If integrated appropriately, digital tools and resources have the potential to transfer some responsibility for learning to students. Learners also benefit from reading and using authentic materials acquired from up-to date online resources rather than textbooks (Moeller, Reitezs, 2011). For this reason, instructional technology is often present and actively being used by the students in a student-centered learning environment.



### **Instructional Planning**

- **Define what is to be taught and implement aligned learning plans**

**Set learning goals and objectives:** Setting learning goals and objectives allows teachers to create pre-assessments in order to gauge students prior knowledge and inform instruction. Setting learning objectives which address the behaviors, conditions, and criteria for learning provides students with a purpose for their learning. When learning objectives are shared and communicated with students, they connect classroom activities to the desired learning outcomes. As students tap into their prior knowledge and attend to the learning goals and objectives, they are better equipped to set their own learning goals. This in turn leads to increased engagement and motivation (Hattie, 2009).

**Alignment:** Instructional planning that ensures written, taught, and tested curricula are aligned both in content and cognitive level of rigor provides the necessary depth and breadth of learning. Alignment of learning goals, instruction, and assessment provides for the appropriate measurement of what has been taught.

- **Balance surface level and deeper learning experiences**

The Standards of Learning may or may not provide for the balanced surface level learning and deeper understanding we seek. Teachers must use content knowledge to instruct for student acquisition of facts and skills, as this learning is essential for student meaning-making to occur. However, it is imperative to teach these facts and skills in the context of enduring understandings and essential questions. These contexts link

learning to students' experiences and interests, which in turn establish relevance and lead to motivation (McTighe and Tomlinson, 2006). Purposeful planning that focuses on teaching for meaning-making and transfer of knowledge and skills must occur in order to provide students with the skills, behaviors, and opportunities we desire.

- **Connect curriculum to relevant contexts and rigorous learning goals**

When students can make meaning, they better transfer their learning. When students have the opportunity to transfer knowledge to new and authentic contexts, rigorous learning goals and deeper learning is revealed. This in turn leads to critical thinking, problem-solving, collaboration and communication. Additionally, authentic applications reveal student proficiency and the varying degrees of their understanding (McTighe and Tomlinson, 2006) which allows teachers to address any gaps in student understanding and proficiency in meeting learning goals.

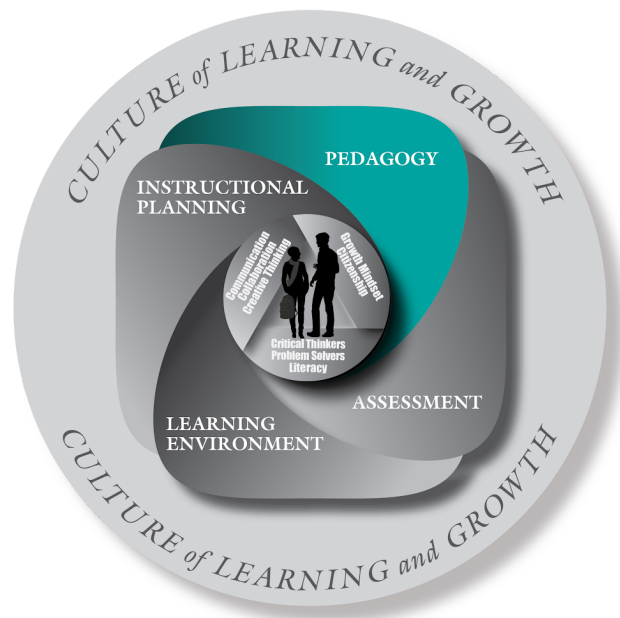
- **Select appropriate instructional materials**

While expectations for learning of content standards, understandings, and expectations for transfer of learning remain consistent for all students, every student has different knowledge, skills, and learning needs. As such, teachers must ensure that instructional materials are relevant to student needs, readiness, interests, and backgrounds. Instructional materials must provide multiple means of content and concept representation and practice, as well as support the differences in learning preferences of the students. When instructional materials are varied and address the aforementioned student indicators, appropriate rigor is attended to and motivation and engagement are increased.

- **Align and select digital learning tools**

While technology fundamentally improves nearly every aspect of our lives, it plays a major role in the teaching and learning process. Teachers must strategically plan, align, and select the appropriate digital tools that will maximize student learning experiences. Selecting trendy digital tools and resources does not come first as teachers plan their instructional units and lesson activities. A student-centered teacher is an instructional designer who utilizes data, frameworks, and curriculum and pacing guides to identify what he/she will teach, determines the strategies that will best meet his/her students' needs, and finally selects and aligns the appropriate digital tools and resources to support the content and the strategies of that lesson and/or unit. One way to consider the best tool to use during the planning phase of instruction is to utilize the TPACK theoretical framework. Technological Pedagogical Content Knowledge (TPACK) attempts to identify the nature of knowledge required by teachers for technology

integration in their teaching, while addressing the complex, multifaceted and situated nature of teacher knowledge. (Koehler, 2015).



### **Pedagogy**

- **Foster engagement**

Selection of pedagogies must be intentional in that they correlate to student needs, learning objectives, and goals. When instructional strategies promote independence and interdependence, students acquire the intended skills, knowledge, and understandings we desire. This leads to increased motivation and engagement in student learning.

**Cooperative Learning:** Cooperative learning provides students with the opportunity to collaborate, communicate, and problem solve. Additionally, cooperative learning that is focused in terms of task, outcomes, and student responsibilities promotes independence and interdependence.

**High-Yield Instructional Strategies:** Effective teachers implement research-based strategies that align to learning goals and objectives, and to student readiness, interests, and backgrounds producing high-yield student results.

**Student talk:** Providing students with ample talk time supports academic achievement, their ability to engage in academic discourse, and the opportunity to extend and deepen learning.

**Metacognition:** Teachers support student metacognition by modeling the thinking processes necessary to complete tasks and solve problems in their content area. Metacognitive strategies allow students continuous reflection on their learning as well as monitoring their progress toward learning objectives and goals which ultimately increases student engagement and achievement.

- **Integrate literacy skills across the curriculum**

Learning content requires language. Students must be able to read, write, speak, listen and think like scientists, historians, mathematicians, artists, etc. Literacy support in the classroom helps students learn how to manage, synthesize, and analyze information presented in a wide variety of modalities. Incorporating literacy strategies helps students construct, design, and share their content knowledge, skills, and understandings. Therefore, teaching literacy skills is the shared responsibility of all teachers.

- **Use digital resources effectively to support the learning process**

In a student-centered learning experience, students are directly engaged with the digital resources and tools in ways that foster creative thinking, construct their own knowledge and support individual skill development. Best strategies or pedagogies must be strategically addressed in the design of the lesson activity to ensure learning and engagement of all students. In addition, tools and/or resources for student use should be identified to ensure that each and every student has an opportunity to maximize his/her learning of that concept or skill.

Employing student-centered learning strategies often may lead lesson delivery away from direct, teacher-led instruction and teacher-led technology to more student-centered, personalized experiences with digital resources and tools. Various blended, center-based (rotation model) teaching and learning environments have been established in some classrooms within our school division providing an example of this transformation emerging in SCPS.

The International Society for Technology in Education (ISTE) standards are aimed at providing researched based guidelines for students, educators, and leaders by identifying the skills, knowledge and approaches they need to succeed in the digital age (2016). By combining the TPACK theoretical model as a planning template with the ISTE standards, the processes and approaches teachers utilize in increasing student

engagement and interaction with digital resources are an innovative approach to developing skills, behaviors, and learning experiences that reflect our digital age and shift our instructional practices towards more and more student-centered learning experiences .



## **Assessment**

- **Utilize a balanced assessment system**

Assessment, critical to the teaching and learning process, must be aligned with learning goals in order to provide both the teacher and the student with feedback on the impact of instruction and the level of student learning. A balanced assessment system of formative, summative, and authentic assessment at the classroom level allows for a comprehensive understanding of student progress toward learning goals. Common assessments help teams gauge student understanding of guaranteed curriculum standards. Dependence on one type of assessment does not afford for a clear reality of student achievement in the classroom.

- **Integrate frequent formative and periodic summative assessment**

Formative assessment occurs throughout the teaching and learning process. Frequent formative assessment supports the learning during instruction and checks for understanding along the way. As such, formative assessment has powerful implications for teachers and students. For teachers, formative assessment allows for timely adjustment of instruction and determines the way each student will demonstrate progress toward understanding and transfer of learning. It also creates a platform for

students to provide feedback to the teacher and peers. As teachers provide feedback that is descriptive in nature during ongoing formative assessment, students are empowered to take responsibility for monitoring and reflecting on their own learning, providing a deeper understanding of what they know and do not know. This helps determine next steps to progress student learning and supports self-assessment and self-adjustment of their learning (Hattie, 2009).

While formative assessment monitors student learning, summative assessment evaluates learning. Summative assessments generally occur at the end of a determined instructional segment. Summative assessments gauge student learning at a particular point in time relative to standards and performance goals.

- **Provide ample opportunities for authentic assessment**

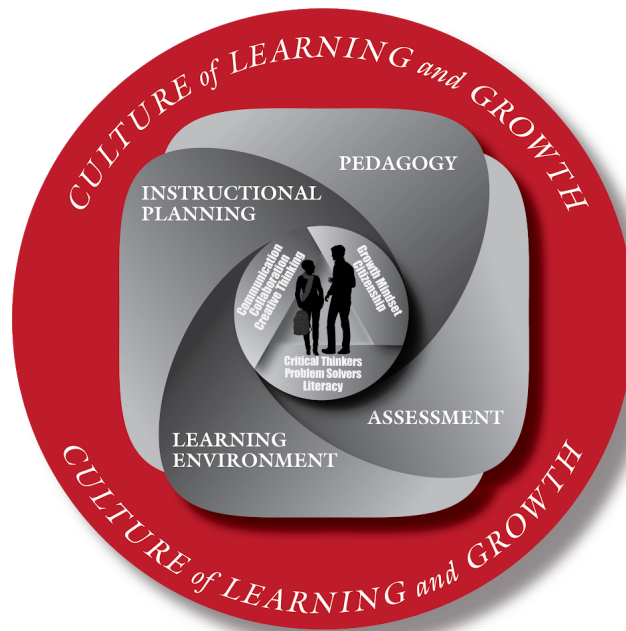
We do not simply want students to know content, but rather strive to support the transfer of skills, knowledge, and understandings to problems and authentic situations. Authentic assessments allow students to demonstrate what they know by applying their learning in a variety of contexts. These assessments require students to tap into prior knowledge and transfer learning in a sophisticated way. They provide a context for collaboration, problem-solving and critical thinking. Therefore, students are not only demonstrating their learning, but also learning the process of working together to find solutions.

- **Utilize digital resources to provide timely, accurate data points and individual feedback supporting the cycle of continuous improvement.**

Digital resources play a significant role in providing students and teachers with timely feedback about their learning. Ensuring students are part of the formative assessment and feedback conversation promotes self-directed learning and a growth mindset. As SCPS deploys more digital resources and/or devices to students to gauge, measure, provide practice, and allow for reflection and accountability, a transformational shift towards a mindset striving for continuous improvement takes place.

Ultimately, through student-centered assessment, student conversations demonstrating their knowledge in various ways and students becoming a part of their own growth plan to develop new ways of utilizing digital resources and tools will promote assessment as a form of feedback for growth as opposed to the traditional routine of summative testing, and stressful testing of the Virginia Standards of Learning.

*The kinds of change that really matter in education are not structural changes but those that build teacher capacity and professional culture (Ingvarson, 2005).*



**Culture of Continuous Learning and Growth**

The Teaching and Learning Framework is supported by and dependent upon a culture of continuous learning and growth. If we expect our students to develop a growth mindset and take ownership of their own learning as they develop the knowledge, skills, and behaviors to support their future, we must model those practices as adults. We, as educators, must develop and maintain the knowledge, skills, and behaviors to support our students' continuous learning and growth. Since the dynamic interplay between teaching and learning processes in today's classroom are ever changing, we must create a system that supports continuous learning and growth for adults as well as students every day to maintain a student-centered focus.

Professionalism is evident in highly effective, growth-oriented education systems. In SCPS, professionalism includes developing and maintaining skills, behaviors, and attitudes that reflect our core values identified in the Strategic Plan, and supports collaboration and teamwork among both adults and students working and learning together. Possessing and sustaining the passion to teach, to learn, to change, and to

positively impact colleagues and students requires a culture that is growth-oriented, innovative, and willing to adapt and accept new challenges.

Developing and maintaining a culture of continuous learning and growth depends on continuous adult professional learning, leadership learning, and requires all adults to function as a professional learning system (learning organization) in every building, every day. A learning system is an organization that recognizes that the core to success is learning for all educators and students. Successful K-12 learning systems attribute their success to investment in the organization's people and ensuring that the people have the knowledge and skills to be successful in their work with students (Learning Forward, 2015). As a learning organization, daily practices are organized around learning for adults and for students.

### **Professional Learning**

SCPS Professional learning takes place at several levels:

- the individual
- the workplace
- the organization

Professional learning at each of these levels is essential in order for SCPS to develop as a learning organization.

The SCPS professional learning system is based on the Learning Forward standards and supports a culture of continuous learning and growth. The identified standards and descriptors are outlined below.

### **STANDARD 1: Professional Learning Communities**

Professional Learning Communities (PLCs), group problem-solving, and teamwork require high levels of collaboration as we shift our daily work towards the practices of a highly effective learning system. PLCs are a part of a collective learning process that is the essential foundation of a professional learning system. This foundation is built through the job-embedded learning of educators, which means that learning is:

- based on classroom experiences and application
- involves systematic inquiry (e.g. Plan, Do, Study, Act) by teachers focused on student work
- identifies both student and teacher learning needs

## **STANDARD 2: Leadership**

The SCPS Strategic Plan outlines leadership and teamwork as core values. SCPS strives to support cultures that continuously improve student learning and growth by way of promoting teamwork and expanding leadership for all adults at all levels. By recognizing the principal as the lead learner and developing leadership for Assistant Principals and Instructional Coordinators as well as teachers, there is greater capacity to maintain and support continuous learning and growth in SCPS.

School leadership who support a collaborative culture of continuous learning and growth must develop capacity, advocate, and create highly effective support systems for ongoing ,continuous learning, innovation, and job-embedded professional learning. As leaders of learning in a learning organization, building capacity includes promoting teacher leadership and utilizing staff who function in the role of embedded adult learning support such as our instructional coaches, specialists, and service providers.

The implementation of this core value supports our daily efforts as an organization to continue to be student-centered as our leadership approaches reflect more distributed leadership models in our schools. In addition, the Teaching and Learning Framework guides more instructionally-focused approaches and interventions in our classrooms that will ensure success for our students by providing instructional leadership at all levels.

### **Teacher Leadership**

Teacher leadership roles have begun to emerge throughout our organization and promise real opportunities for teachers to impact educational change-without necessarily leaving the classroom. SCPS professional learning activities aimed at building the skills and opportunities for teacher leaders are the Teacher Leader Academy and the Teacher Leader Colloquium. Although a teacher does not have to be designated as a PLC facilitator, a lead teacher, or department chair to be considered a teacher leader in SCPS, many of our department chairs and/or lead teachers are also teacher leaders.

Teacher leaders take on both formal and informal roles in SCPS . Many serve as PLC facilitators, work advisor-mentors to new teachers and other colleagues, test out new innovative approaches and/or technology and facilitate professional development activities. Teachers leaders also act as members of school-based leadership teams, instructional support teams and leaders of change efforts (Livingston, 1992). In addition, teachers are forging a number of new and unique leadership roles through their own

initiative by developing and implementing programs they personally believe will result in positive change (Troen & Boles, 1992).

Teacher Leadership movement across the school division plays a significant role in sustaining a culture of continuous learning and growth. Participants in teacher leadership work report that the greatest learning is the opportunity to learn what peers are doing across SCPS. This professional network of SCPS teacher leaders has grown to become a viable professional learning resource to support school improvement and the goals of our Strategic Plan. Pilots and initiatives led by classroom teachers in partnership with Instructional Services is an excellent example of Teacher Leadership in action.

### **Instructional & Peer Coaching**

Embedded, consistent coaching is another professional learning design that promotes continuous learning and growth. Coaches embed the notion of just-in-time, peer support in both PLCs and one-on-one with colleagues. Math Specialists, Reading Specialists, Instructional Technology Resource Teachers, ESOL staff, Teaching & Learning Coaches, and Literacy Coaches all play a significant role in supporting student learning by way of building trusting partnerships with classroom teachers. Although their specializations may differ, the overall coaching process is similar in SCPS:

- grounded in partnerships
- non-evaluative
- confidential
- focused on professional practice
- ongoing
- job-embedded

Coaching is not limited to these formal roles in SCPS. Peer coaching is an emerging practice in some highly functioning PLCs throughout the school division. Developing all staff to coach each other accelerates adult learning, which can accelerate student learning. A key factor in the process is that job-embedded support to this level of learning takes place and that the school's culture has made the shift from "me" to "we".

For detailed information on coaching, see the SCPS Coaching Process at this link under the SCPS professional learning system.

### **STANDARD 3: Data - Connecting adult learning to student learning**

Data drives the cycle of continuous learning and growth and is a standard in most highly effective learning systems. Data from multiple sources enrich decisions about where to aim improvement efforts and professional learning that leads to increased results for every student. The use of multiple sources of data offers a balanced and more comprehensive analysis of student, educator, and system performance than any single type or source of data can (Learning Forward, 2015). The implementation of quantitative and qualitative data such as common formative, summative and/or performance assessments, observations, work samples, portfolios, and self-reports offers a balanced and comprehensive analysis of student, educator and system performance.

However, data alone do little to inform decision making and increase effectiveness. It is the data-based decisions and actions of the educators working and learning together in a culture of continuous learning and growth that increase effectiveness and improve student learning .

#### **STANDARD 4: Learning Designs**

Beyond the work of the PLC, There are many ways to sustain a continuous culture of learning and growth where all adults learn alongside the students that they teach. Job-embedded learning designs engage individuals, pairs, or teams of educators in professional learning during the workday. Designs for job-embedded learning include analyzing student data, case studies, peer observation or visitations, simulations, co-teaching with peers or specialists, action research, peer and expert coaching, observing and analyzing demonstrations of practice, problem-based learning, inquiry into practice, student observation, study groups, data analysis, constructing and scoring assessments, examining student or educator work, lesson study, professional reading, or book studies (Learning Forward, 2015) .

Job-embedded learning is the most effective learning design, but is not always the most feasible for learning about large initiatives. Educators must find a balance between both individual and collective learning experiences available in SCPS.

In addition, all adult learning is aligned with the school improvement plan and the SCPS Strategic Plan. The alignment process is put in place to support a culture that is continuously growing and learning. Establishing a professional network in and outside SCPS is critical to educator learning as well as a commitment to participating in learning about new initiatives, programs, practices that are available to all staff in SCPS.

#### **STANDARD 5: Outcomes/Culture**

Understanding our culture(s), transforming the teaching and learning environments and instructional practices in buildings to better support a diverse, dynamic student population is another core value supporting our vision to ensure engaging and supportive learning environments for our students. The recent investment of time, education, and focus on discipline disparity, cultural proficiency, and development of flexible daily schedules allowing for time to address the diversity of our students, represent efforts to meet our students' needs. Student-centered classrooms and/or schools learning and growth in SCPS goes beyond a Standards of Learning test score, GPA rank, and grades.

Developing a culture where relationship among adults and students are trusting and highly collaborative is necessary if we intend to meet the learning needs of all SCPS students and identify ourselves as student-centered. Understanding how we can further support a culture of continuous learning and growth by becoming more proficient in developing and maintaining those relationships, collectively addressing issues and challenges in our schools and throughout the organization is essential to shifting towards more and more student-centered learning practices outlined in the Teaching and Learning Framework. It begins by ensuring a highly collaborative culture in our schools and programs where all adults and students learn at all times.

Preparing all students to be *future ready* will require all practices and processes to be aimed at student centered instructional programs and practices. It naturally follows that curriculum design and the adoption of instructional materials, instruction, instructional technologies and assessment practices, teacher learning, and leadership problem solving and decisions will be also be grounded in developing both adult and student skills, behaviors, and opportunities.

## References

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.

Hattie, J. (2009). *Visible learning*. London: Routledge.

Invarsgon, L. (2005). Getting professional development right. Retrieved from: [http://research.acer.edu.au/cgi/viewcontent.cgi?article=1002&context=professional\\_dev](http://research.acer.edu.au/cgi/viewcontent.cgi?article=1002&context=professional_dev)

“International Society for Technology in Education”. (2016). The ISTE Standards. Retrieved from: <http://www.iste.org/standards/iste-standards>

Koehler, M. (2015). TPACK Explained. Retrieved from: <http://www.tpack.org/>

Learning Forward (Producer). 2015. Overview of the standards for professional learning . Retrieved from <http://learningforward.org/standards#.VrJAY7lrJG8>.

Livingston, C. (1992). Introduction: Teacher leadership for restructured schools. In C. Livingston (Ed.), *Teachers as leaders: Evolving roles*. NEA School Restructuring Series. Washington, DC: National Education Association

Moeller, B., Reitzes, T. (2011, July). Integrating technology with student-centered learning. Retrieved from: <https://www.nmefoundation.org/getmedia/befa9751-d8ad-47e9-949d-bd649f7c0044/Integrating-Technology-with-Student-Centered-Learning>

Tomlinson, C. A., & McTighe, J. (2006). *Integrating differentiated instruction & understanding by design: Connecting content and kids*. Alexandria, VA: Association for Supervision and Curriculum Development.

Troen, V., & Boles, K. (1992, April). *Leadership from the classroom: Women teachers as a key to school reform*. Paper presented at the annual meeting of the American Education Research Association, San Francisco, CA.