# Model Curriculum Framework

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Introduction to the Model Curriculum Framework

The Role of Standards, Curriculum, and Instructional Resources

Now more than at any other point in history, there is a great need for schools and districts to develop coherent curriculum that intentionally connects standards, instruction and assessment across classrooms. In their book *Leaders of Learning*, Dufour and Marzano (2011) state how today’s educators are being called upon to raise academic standards to the highest level in history and to help *every* student reach these higher levels of achievement. Within schools in America, large racial and socioeconomic gaps still exist among graduation rates, test scores and advanced proficiency. In order for educators to meet the challenge of helping all students master standards, they must have a clear vision of what best practice teaching and learning is and a clear road map to follow throughout the year (Ainsworth, 2010).

In the process of developing high-quality curriculum, Kentucky schools and districts must consider the following questions:

- What is the difference between standards and curriculum and instructional resources?
- What is meant by a guaranteed, viable curriculum?
- How do standards, curriculum and instructional resources work together to help create equity for all students in Kentucky?

In order to better understand the relationship between standards, curriculum and instructional resources, we must start with defining each term. The *Kentucky Academic Standards (KAS)* contain the minimum requirements of what students should know and be able to do by the end of each grade level. The standards address a foundational framework of what is to be learned. They help to answer the first question of the Professional Learning Community (PLC) process, “What do we want students to learn?” The purpose of the KAS is to ensure all students across Kentucky focus on a common set of standards and are provided opportunities to learn at high levels. While the standards address what is to be learned, they do not address how learning experiences are to be designed or what instructional resources are to be used.

Curriculum is derived from a Latin word meaning “a course or path run in small steps.” It addresses how learning experiences are designed at the local level. The overall purpose of curriculum is to focus on and connect the work of classroom teachers within a school and/or district to standards, assessments and classroom practices in order to raise student achievement. Curriculum includes the vast array of pedagogy, readings, learning experiences, instructional resources and local mechanisms of assessment, including the full body of content.
knowledge to be covered, all of which are to be selected at the local level according to Kentucky law (KRS 160.345).

Instructional resources, as defined by 704 KAR 3:455, include all the print, nonprint or electronic medium designed to assist student learning. Often times instructional resources, such as vendor programs, textbooks and online products are mistakenly referred to and/or utilized as a school or district ‘s curriculum. While these resources may support the implementation of a high-quality curriculum, they do not comprise the full scope of supports found in a true standards-aligned curriculum.

For schools and districts, translating the standards into a guaranteed, viable curriculum is critical to student success. In his book What Works in Schools, Robert Marzano (2003) states that this is the single most important initiative a school or district can engage in to raise student achievement. A lack of a clearly articulated curriculum not only hinders improvement, but may lead to curricular chaos (Schmoker, 2016). When this occurs, often times there is a great deal of redundancy and inconsistency in what is taught from one classroom to the next across all grade levels. There is little alignment between assessment and the standards. This discrepancy in what is actually taught results in lower achievement for students (Schmoker, 2006).

So, what does it mean to have a guaranteed and viable curriculum? To be guaranteed, the curriculum must ensure that specific content is taught in specific courses and at specific grade levels, regardless of the teacher assigned to the student. When schools and districts are unable to guarantee the curriculum being taught, it creates disparity in opportunities to learn for students. Opportunity to learn is a powerful, yet simple concept: If students do not have the opportunity to learn the content expected of them, there is little chance they will (Dufour & Marzano, 2011).

Not only must the curriculum be guaranteed, but it must also be viable. This means schools and districts must ensure enough instructional time is available to actually teach the essential knowledge, skills and/or concepts within each unit of instruction. Regardless of the teacher assigned to a child, all parents have an assurance that the level of academic rigor is consistent and their child will receive the time and space needed to master the essential learning outcomes.

The creation of a school or district curriculum aligned to the KAS does not guarantee students have access to the same knowledge and skills. A distinction must be made between the intended curriculum and the implemented curriculum. In many places, gaps exist between the school or district-established curriculum and what is actually implemented by teachers in
classrooms. For schools to truly implement a guaranteed and viable curriculum, it is imperative that the teachers accountable for delivering the content possess a common understanding of the curriculum and a commitment to teach it.

How then do we bridge the gap between the intended curriculum and what is actually implemented in the classroom? This is the role of Professional Learning Communities (PLCs). The collaborative team process of collective inquiry that occurs in a PLC is purposefully designed to ensure students have access to a guaranteed, viable curriculum. The collective inquiry is driven by four key questions:

1. What do we expect our students to learn?
2. How will we know if they are learning?
3. How will we respond when some students do not learn?
4. How will we enrich and extend learning for students who already know it?

As teachers work through the four questions of a PLC, they build a shared understanding of what students must know and be able to do to meet the standards, how to measure student learning and how to respond to student needs along the way (Dufour & Marzano, 2011).

When schools and districts across the state develop and implement a coherent, high-quality curriculum grounded in the *Kentucky Academic Standards*, they are providing a more equitable environment for all students. It ensures that each and every student has equal access to the same content, knowledge and skills regardless of the teacher or school they attend.

The *Model Curriculum Framework (MCF)*, per [KRS 158.6451](https://www.lrc.ky.gov/lnft865004496.64500456/KRS-158-6451), provides guidance for schools and districts in implementing educational best practice in a way that positively impacts student achievement. The first section focuses on developing a system-wide process for designing curriculum aligned to the *KAS* at the school or district level. The second section moves into implementation of curriculum at the school and classroom level. This section begins with the importance of teacher collaboration through the PLC process, then shifts to moving from curriculum into assessment and, finally, looks at current research around instructional best practice. The organization of this document mirrors the use of backward design, starting with what students must know and be able to do, how learning will be assessed and how that translates into daily teaching and learning.
Curriculum Development Process

Introduction

This section is designed for school and district leaders to provide guidance on developing and implementing a systematic process for translating standards into a coherent, high-quality curriculum. This approach focuses on three crucial phases: Planning and Professional Learning, Developing the Curriculum, and Implementing and Monitoring the Curriculum.

The development of an effective curriculum is a multi-step process that is ongoing and cyclical in nature. The process moves from evaluating the existing curriculum, to designing an improved curriculum, to implementing the new curriculum and back to monitoring and adjusting as needed. Figure 1.1 provides an example of a possible way to structure this process and serves as an outline for the remainder of this section.

Figure 1.1 Curriculum Development Process

<table>
<thead>
<tr>
<th>Phase 1: Planning and Professional Learning</th>
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<tbody>
<tr>
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<td>➢ Step 2: Create Curriculum Document Template</td>
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<td>➢ Step 3: Organize and Sequence Course Standards</td>
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<tr>
<td>➢ Step 3: Analyze Data to Adjust Curriculum and/or Professional Learning</td>
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Preparing for the Curriculum Development Process

There are some key decisions schools or districts should make to prepare for and support the work of the curriculum development process. Each decision is crucial to ensuring the process flows smoothly and that time and resources are used effectively and appropriately. Figure 1.2 highlights these four steps.

Figure 1.2 Preparing for the Curriculum Development Process

<table>
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Step 1: Review SBDM Policy

According to KRS 160.345, local school-based decision making (SBDM) councils are responsible for creating a policy addressing how the curriculum will be determined and developed at the local level and shall be based on a needs assessment. This includes the outline of responsibilities, design of the school’s curriculum and the determination of appropriate instructional resources. The law requires the policy to be implemented by the principal and aligned to the Kentucky Academic Standards.

In regards to the outline of responsibilities of curriculum development, there are several possibilities that could be used by the SBDM. For example, the SBDM might delegate the curriculum development and determination process to a curriculum committee within the school. The curriculum policy might leave the determination up to each department or grade-level. Another option might include assigning representatives to a district-wide curriculum team for the determination and development of the curriculum. District leaders should consider how they can offer support and guidance to each school’s SBDM in creation of the policy.

Step 2: Establish a Curriculum Review Cycle

To make the work more manageable, schools or districts should consider establishing a curriculum review cycle that focuses on a limited number of content areas per year in a
repeating cycle. The review cycle is critical in helping schools and districts to both manage the work and the budget in a way that is not overwhelming. Figure 1.3 shows an example of a curriculum review cycle.

**Figure 1.3 Sample Curriculum Review Cycle**

<table>
<thead>
<tr>
<th>Content Area</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading and Writing</td>
<td>Year 1: Develop</td>
<td>Year 2: Implement &amp; Monitor</td>
<td>Year 3: Monitor &amp; Adjust</td>
<td>Year 4: Monitor &amp; Adjust</td>
<td>Year 5: Monitor &amp; Adjust</td>
<td>Year 6: Monitor &amp; Plan</td>
<td>Year 1: Develop</td>
<td>Year 2: Implement &amp; Monitor</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Year 6: Monitor &amp; Plan</td>
<td>Year 1: Develop</td>
<td>Year 2: Implement &amp; Monitor</td>
<td>Year 3: Monitor &amp; Adjust</td>
<td>Year 4: Monitor &amp; Adjust</td>
<td>Year 5: Monitor &amp; Adjust</td>
<td>Year 6: Monitor &amp; Plan</td>
<td>Year 1: Develop</td>
</tr>
<tr>
<td>Social Studies</td>
<td>Year 5: Monitor &amp; Adjust</td>
<td>Year 6: Monitor &amp; Plan</td>
<td>Year 1: Develop</td>
<td>Year 2: Implement &amp; Monitor</td>
<td>Year 3: Monitor &amp; Adjust</td>
<td>Year 4: Monitor &amp; Adjust</td>
<td>Year 5: Monitor &amp; Adjust</td>
<td>Year 6: Monitor &amp; Plan</td>
</tr>
<tr>
<td>Science</td>
<td>Year 4: Monitor &amp; Adjust</td>
<td>Year 5: Monitor &amp; Adjust</td>
<td>Year 6: Monitor &amp; Plan</td>
<td>Year 1: Develop</td>
<td>Year 2: Implement &amp; Monitor</td>
<td>Year 3: Monitor &amp; Adjust</td>
<td>Year 4: Monitor &amp; Adjust</td>
<td>Year 5: Monitor &amp; Adjust</td>
</tr>
<tr>
<td>CTE &amp; Health/PE</td>
<td>Year 2: Monitor &amp; Adjust</td>
<td>Year 3: Monitor &amp; Adjust</td>
<td>Year 4: Monitor &amp; Adjust</td>
<td>Year 5: Monitor &amp; Adjust</td>
<td>Year 6: Monitor &amp; Plan</td>
<td>Year 1: Develop</td>
<td>Year 2: Implement &amp; Monitor</td>
<td>Year 3: Monitor &amp; Adjust</td>
</tr>
</tbody>
</table>

Schools or districts may want to consider establishing a cycle that aligns with the standards revision process at the KDE. In accordance with Senate Bill 175 (2019), the current schedule calls for one or two content areas to be reviewed each year and every six years after that on a rotating basis. The sample cycle in Figure 1.3 corresponds with this timeline. In determining the order of the content areas in the curriculum review cycle, schools or districts should utilize data from their annual needs assessment. This might include data on student achievement, analysis of student work and sample assessments and tasks, and feedback gathered from student voice surveys regarding classroom climate, school culture, engagement and learning experiences.

**Step 3: Develop a Timeline**

In addition to establishing a curriculum review cycle, the school or district should develop a timeline for the scope of the work and the expected outcomes to be completed at each point in the process. Several factors may play a role including allotted time frame for completing the process, team member availability, and allocation of resources. A sample timeline has been
Step 4: Determine the Budget

Prior to beginning the process, schools or districts should develop a budget for the scope of the work to be completed each year. To help prioritize this work, schools and districts should consider how curriculum development and implementation might be reflected in their Comprehensive Improvement Plans and how the various school or district funds may be utilized to support the curriculum development process each year. The following are some possible considerations when developing the budget:

- What resources are needed to support professional learning for the curriculum team at the beginning of the process?
- Will funds be required to pay stipends or substitutes for members of the curriculum team?
- Will funds be used to purchase instructional resources to support implementation of the new or revised curriculum?
- What resources are needed to support professional learning to build staff capacity of the new or revised curriculum?

To support schools and districts in implementing this process, the KDE has created a supplemental resource toolkit that includes a quick reference for each phase, templates, samples and other supporting documents. The resources are located in Appendix A. [Preparing for the Curriculum Development Process Toolkit]

Phase 1: Planning and Professional Learning

Step 1: Create and Convene Curriculum Development Committee

The process of developing curriculum from standards begins with establishing the content area curriculum team. If the delegation of responsibilities for curriculum development involves a district-level team, the team should consist of teacher representatives from various schools and grade levels in the district, instructional coaches, as well as building and district administrators. It would also be beneficial to include teacher representatives from other areas such as special education, gifted and talented, English Learners and library media specialists. For a large district, consider dividing into elementary and secondary teams. However, it is important that
team members from transition grade levels have opportunities to meet to ensure vertical alignment of the curriculum.

If the delegation of responsibility remains at the school level, the team should consist of teacher representatives from each grade level, school-based instructional coaches/specialists, as well as building administrators. Similar to the district team, consideration should be given to teacher representatives from other areas. If possible, the school may want to consider including district administrators with curricular and/or specific content expertise.

When selecting members, consider choosing individuals that model a growth mindset, are able to inspire and influence others within their school and are committed to supporting a common agreed-upon message. The goal is to create a team of knowledgeable, committed members who gradually become the “experts” during the development process and throughout implementation of the curriculum.

Once team members have been selected, the school or district should pre-determine meeting dates and associated logistics. For each phase of the process decide when and where the team will meet and the purpose of each meeting. In terms of the purpose, what are the intended outcomes of each meeting (i.e. expected learning outcomes, work to be accomplished)? By determining and communicating the meeting logistics at the beginning of the process, it allows team members to plan accordingly to ensure they can commit to each step of the development process.

Step 2: Analyze Research to Develop a Shared Understanding of Evidence-Based Practices

Often when developing curriculum from the standards, a common starting point for the content team is to create curriculum maps, pacing guides, etc. However, as mentioned in the introduction, it is first critical to build an in-depth understanding of current evidence-based practices for the specific content area.

When gathering relevant research for the team to analyze, the most important place to start is the academic standards document itself. Within the introduction of each KAS document, there are two critical sections, “The Writer’s Vision Statement” and “Design Considerations.” Through analysis of these sections, the team will gain an understanding of the foundational beliefs that guided the development of the standards document and the design considerations of the specific components within the standards document.
Next, the team should focus on the foundational documents used in the development of the standards. These are also located in “The Writer’s Vision Statement.” Through examination of these foundational documents, the content team will develop a deeper understanding of the research that influenced the creation of the standards and the potential impact on classroom instruction and assessment. All of the KAS documents are accessible on kystandards.org.

During this step, the team also needs to build a shared understanding of the KAS document itself, regarding both the overall architecture and its critical components. The architecture comprises the overall organizational structure of the document, the different ways to view the standards and the design considerations of the specific components within the standards document.

The purpose of the critical components found in each KAS document is to provide greater clarity in what the standards are specifically asking students to know and be able to do to meet the expectations of the standards. For example, within the KAS for Reading and Writing document, the multidimensionality component highlights the three dimensions built within each standard - content, comprehension, and analysis. By specifying the three dimensions separately, the standards document better communicates the intent of each standard so that local instruction and assessment will align to the intended depth. The team should focus on examining each component and the connections between the components and the standards, as well as how those components can support teachers in designing standards-aligned instruction and grade-level assignments (Mausbach & Mooney, 2008). A valuable resource to build this in-depth understanding is the Getting to Know the KAS Modules available from the KDE.

After examination of these critical documents, other useful resources for deepening understanding of evidence-based best practice include resources from content-specific national and professional organizations, as well as educational experts in the respective subject area.

Step 3: Articulate a K-12 Program Philosophy

Once the curriculum team has collaboratively analyzed current research and have a shared understanding of the depth and rigor of the standards, they work to develop a philosophy of teaching and learning for that content area. The philosophy becomes more than what the school or district thinks should be happening in classrooms. Rather, the articulated philosophy is what the curriculum is striving to reflect in all classrooms across the school or district. The articulated philosophy sets the vision for teaching and learning in the content area and serves as an ongoing point of reference throughout implementation that drives decision-making around professional learning and resource development (CT Department of Education, n.d.).
In articulating the program philosophy, the curriculum team starts with determining the school or district’s research-based foundational beliefs regarding teaching and learning in the specific content area. These belief statements become the driver for the rest of the curriculum development process. It is imperative that each member supports the agreed-upon beliefs, understands the rationale for each belief and is committed to implementing those into his/her classroom practice.

Once established, the team should consider how those beliefs impact areas such as:
- Curriculum Design
- Tier I Instruction
- Assessment

For curriculum design, the team must determine what elements of the foundational beliefs need to be made explicit in the curriculum documents created by the team. For example, if a foundational belief for science is that bundled standards should be tied together using an anchor phenomenon, then the curriculum documents should reflect this belief. If a foundational belief in mathematics is the use of rich mathematical tasks, then this should be reflected in the mathematics curriculum documents. If a foundational belief in English/language arts (ELA) is that students must be writing about text regularly, then this should be reflected in the ELA curriculum documents.

When articulating the impact of foundational beliefs on Tier I instruction, the team should consider how those beliefs would look and sound in the classroom setting. What would a school or district administrator be able to observe in a classroom where those beliefs are put into practice? What types of instructional strategies would support student understanding of the standards?

In terms of assessment, how do the beliefs impact the types of assessments given to students? What types of evidence would teachers need to elicit from students that align with the expectations within the standards?

Once the team has developed its philosophy of teaching and learning for the specific content area, the team would then consider how that might be articulated in writing in a way that is clear and easily understood by all stakeholders that, at a minimum, includes a summary of the team’s thinking regarding foundational beliefs, curriculum design, Tier I instruction and assessment. This written philosophy grounds the work of the content team as they move into the next step of creating the curriculum documents and identifying professional learning needs.
and resources necessary to move toward that articulated vision (Connecticut Department of Education, n.d.)

To support schools and districts in implementing this process, the KDE has created a supplemental resource toolkit that includes a quick reference for each phase, templates, samples and other supporting documents. The resources are located in Appendix A.

**Phase 1 Toolkit**

**Phase 2: Developing the Curriculum**

**Step 1: Analyze *Kentucky Academic Standards* in the Specific Content Area**

Prior to creating the curriculum documents, the team should spend time analyzing the K-12 progression of the standards. According to Jacobs and Johnson (2009), schools and districts need to consider two lenses to gain a better understanding of student experiences over time: a zoom lens that focuses on the standards for a particular grade level and a wide-angle lens to see the K-12 perspective. The content team needs to develop a shared understanding of the big picture of the standards in order to gain clarity into how their grade-level standards support the overall progression.

The *KAS documents* were written by teachers with an intentional focus on providing support to determine where a specific standard fits into the overall progression. Whether this is through mini-progressions, coherence statements or complete K-12 progressions, the documents can guide the content team in developing both a microscopic and macroscopic view of the standards. Understanding the big picture of K-12 progressions of knowledge and skills within the standards will help the team as they move into the next steps of developing the curriculum.

**Step 2: Create Curriculum Document Template**

It is important for the team to create a curriculum document template that plans a coherent instructional experience within and across grade levels that systematically builds student understanding of the KAS and reflects the beliefs of the articulated philosophy. The documents should include enough detail to support teachers in the development of weekly plans and designing daily lessons (Ainsworth, 2010).

The curriculum document serves as the central guidance for all instructional staff who support and supervise teaching and student learning. The document should be designed in a way that allows for broad-based access and ease of use. Possible areas of emphasis in the curriculum document include (Council of Great City Schools, 2017):
• An articulation of the depth at which students need to learn, demonstrate their understanding of, and apply a given concept
• Identification of and support for implementing evidence-based practices into classroom instruction aligned to the articulated philosophy
• Instructional strategies for teaching standards
• Scope and sequence of the curriculum that specifies what content knowledge and skills should be taught, and at approximately which point during a school year in order to create a coherent learning experience
• Best practices for delivering content at key points in the curriculum, particularly for concepts and skills that have traditionally proven challenging for students
• Time required to address essential content with flexibility for teachers to respond to student needs
• Assessments aligned to depth of standards
• When and how to use assessments, including formative assessments, to determine whether students are making progress in attaining a particular standard or set of standards
• Specific instructional resources to support standards-based instruction
• Culturally responsive texts and resources that respect and celebrate the cultural, ethnic, and linguistic diversity of students
• Concepts and skills where large numbers of students are likely to have learning gaps, with suggested guidance that will help students fill those gaps while simultaneously accessing grade-level material
• Possible interdisciplinary connections
• Natural coherence within and across content areas and across grade levels

If revising an existing curriculum, the team should analyze the current document to determine if the elements necessary to support the vision of the KAS and the articulated philosophy are present. If not, what revisions are necessary to reach that vision?

As the team moves into developing the curriculum for their specific grade-level or course, the curriculum document template helps to ensure that all members are focused on the same supporting elements. It allows the organization and sequencing of the standards to be grounded in both the beliefs of the articulated philosophy and common curricular supports for instructional experiences within and across grade levels.
Step 3: Organize and Sequence Course Standards

The process of organizing and sequencing standards focuses on addressing what standards are taught and when they are taught. As the team members work with specific course standards, it is helpful to begin by organizing standards together in a way that can anchor student learning. For example, team members working on organizing social studies standards for a specific grade level or course may group standards based on a compelling question. In science, it might be grouping standards around an anchor phenomenon. Within English/language arts, they may group several reading and writing standards around specific literary and informational print and non-print texts and/or text sets. For mathematics, the team might organize standards based on connections across the different domains.

Creating units that contain a group of content standards organized around big ideas or questions helps to deepen student understanding and engagement with the content in a more meaningful way. This helps to avoid students seeing the standards as a set of isolated information, skills or processes. It can also provide a way to identify places for interdisciplinary connections. Since the standards represent what students should know and be able to do at the conclusion of a course, it is important to note that some standards may appear in multiple units in order to deepen understanding over time.

Once all standards for a specific course have been organized into units, the team then sequences the units in a way that fosters and deepens students’ understanding through the school year. There is no one correct way to organize content course standards. However, it is important that the team organizes the standards in a way that reflects the school or district’s philosophy and upholds the instructional intent of the KAS document for the specific content area. For standards that appear in multiple units, it is important to decide at what point those particular standards will be assessed for mastery and when they become supporting standards.

After organizing and sequencing the standards, the team determines appropriate pacing for delivering the instructional units. The duration of each unit will vary based on the complexity of certain standards assigned to a particular unit or its intended learning outcomes (Ainsworth, 2010). In order for the curriculum to be viable, the school and district must ensure that enough instructional time is available to actually teach the content. Consideration should also be given to including enough time in a unit for teachers to respond to student learning needs. Ainsworth (2010) recommends building in a short interval between each unit referred to as a “buffer” period that provides flexibility to meet students’ needs.
Step 4: Develop Grade-Level/Course Curriculum Supports

Once the grade-level or course standards have been organized and sequenced, the team must work to develop the curriculum supports identified in the curriculum document template. Each area of support must reflect the beliefs outlined in the articulated philosophy and designed to help students meet the KAS grade-level or course expectations.

Throughout the process of developing the curriculum, the team should utilize a process for reviewing and revising so that all aspects of the curriculum are viewed by both the vertical and grade-level teams. This helps to ensure that the entire curriculum for the content area maintains coherence and quality across all grade levels (Mausbach & Mooney, 2008).

Step 5: Identify Instructional Resources and Professional Learning to Support Implementation

The first step in ensuring the intended curriculum developed by the school or district becomes the actual curriculum implemented in the classroom is to identify the instructional resources and professional learning necessary to develop teacher understanding of the curricular vision.

During this phase, the curriculum team identifies and analyzes instructional resources currently available in the school or district to determine how well those resources align to the articulated philosophy and the content area standards. Instructional resources are defined as any print, non-print or electronic medium designed to assist student learning (704 KAR 3:455). Some helpful tools to assist in determining alignment of resources to the standards include the Instructional Resources Alignment Rubrics and the Kentucky Digital Learning Guidelines. Another useful resource to examine the research-based effectiveness of potential instructional resources is Elevating Evidence: Clearinghouses and Databases. To help support curriculum implementation, the team may need to seek out additional standards-aligned, high-quality instructional resources to fill any gaps in existing resources.

Based on the KAS and the articulated philosophy, the team identifies areas of professional learning necessary to help teachers implement the curriculum. Questions the team may consider include:

1. Are there areas of identified best practice in the articulated philosophy in which there is currently little evidence of implementation in classrooms across the school or district?
2. Are there specific needs for elementary versus secondary?
3. What type of professional learning is needed to support school leaders in understanding the curriculum and monitoring for evidence of implementation in the classrooms?
4. Is professional learning needed to assist teachers in selecting and utilizing instructional resources to engage students in standards-based, grade-appropriate assignments?

Once the team has identified the professional learning needs, the next step is to develop a professional learning plan. The team prioritizes the identified areas to determine where to begin the work, funds that will be used to support the professional learning and possible timelines for completion. It is helpful for school and district leaders to consider potential impacts of the work as it relates to the Comprehensive Improvement Plan at the school or district level.

To support schools and districts in implementing this process, the KDE has created a supplemental resource toolkit that includes a quick reference for each phase, templates, samples and other supporting documents. The resources are located in Appendix A.

**Phase 2 Toolkit**

**Phase 3: Implementing and Monitoring the Curriculum**

**Step 1: Implement the New Curriculum**

As mentioned previously, one goal of the content area team is to create knowledgeable, committed members who gradually become the school or district’s “experts” during the development process. The members of the team now help to build understanding of the curriculum in their respective schools. Teachers and school leaders throughout the school or district need time and opportunity to develop an understanding of the new curriculum, its overall design and how it differs from the past (Connecticut Department of Education n.d.). This includes sharing the philosophy and its rationale, explaining the way in which the standards were organized and sequenced and ensuring teachers know how to utilize both the KAS document and school or district curriculum documents to guide the work of the grade-level or course Professional Learning Communities (PLCs).

To support the vision that the intended curriculum truly becomes the implemented curriculum, it is important for school and district leaders to create a plan for supporting and monitoring implementation. Curriculum monitoring is a process of gathering information to analyze the effectiveness of the curriculum to ensure that the intended, implemented and attained curricula are aligned. This involves collecting data to determine what is working, what is not working and what is needed to improve. The plan should clearly define what data will be collected that will provide evidence of implementation at the classroom level aligned to the articulated philosophy and the curriculum documents. Data should also be gathered to ensure
students have attained the learning outcomes of the curriculum aligned to the appropriate depth of the Kentucky Academic Standards.

When developing the monitoring plan, it is important to also consider the person(s) responsible for collecting the evidence, as well as those responsible for analyzing the data. Finally, consider how often the data will be analyzed in order to make decisions in a timely manner regarding adjustments and/or supports needed to ensure effective implementation of the curriculum.

Step 2: Collect Quantitative and Qualitative Data to Monitor Implementation

In general, the data gathered should represent overall student performance that is closely linked to daily instruction. Quantitative data might include grade-level or course assessment results, samples of student work, as well as samples of assessments, tasks and assignments to examine for alignment to the standards.

Qualitative data might include insights gathered from classroom observations, including informal and formal principal observations, as well as instructional rounds, learning walks or other similar processes conducted by school and/or district leadership. Other possible sources of qualitative data include feedback from surveys and on-going conversations with students and school and district staff.

Step 3: Analyze Data to Adjust Curriculum and/or Professional Learning

The data gathered is analyzed on a continual basis to determine the level of implementation. Though no single data point is able to provide a full analysis of student achievement, the triangulation of data can provide information to identify where the curriculum is having positive impacts and where adjustments may be needed. That is why it is important to look at both quantitative and qualitative data. Mausbach and Mooney (2008) recommend that the content team meet twice a year to analyze the data to determine strengths and areas of growth. School and district leaders may also spend time as a PLC analyzing the data to identify school and district trends at various times throughout the school year. As teachers work collaboratively through the PLC process, they are able to monitor student attainment of the curriculum as they analyze data from common formative and summative assessments.

Based on the data analysis, the content team determines next steps to help teaching and learning continually move toward the vision laid out in the articulated philosophy. In their book Align the Design, Mausbach and Mooney (2008) share that one of the reasons curriculum work can be challenging is that it is never done. The curriculum is a living document that changes over time based upon data analysis. Sometimes the data may indicate teacher confusion on
wording in the curriculum documents requiring the team to change the language to provide more clarity. As teachers become more familiar with the standards and the depth needed for students to reach mastery, it may require small tweaks to the pacing or sequencing of the standards within the curriculum for a particular grade level.

Sometimes the data indicate lack of understanding and inconsistency in the teaching of the standards, not with the curriculum itself. In this case, the team uses the data analysis to indicate areas of professional learning needed to support teacher understanding and use of specific best-practice instruction outlined in the articulated philosophy.

In their research, Hattie (2009) and Marzano (2003) both indicate the importance of two factors that significantly impact student achievement: a guaranteed and viable curriculum and quality classroom instruction. In order for alignment to exist between the intended curriculum and the instruction that actually occurs in the classroom, teachers need to work collaboratively within PLCs to reach this goal. The next section of the MCF will address the role of PLCs, why they are important and offer suggestions to support implementation.

To support schools and districts in implementing this process, the KDE has created a supplemental resource toolkit that includes a quick reference for each phase, templates, samples and other supporting documents. The resources are located in Appendix A.

Phase 3 Toolkit
Professional Learning Communities

The Need for PLCs

While translating the standards into curriculum at the local level is critical work, systems and structures are needed to ensure the intended curriculum is actually implemented in all classrooms across the school or district. Merely distributing the curriculum documents and pacing guides to individual teachers does not guarantee that all students will be held to the same expectations. Student learning improves when a school or district can truly guarantee that students will be taught the same knowledge and skills regardless of the teacher to whom they are assigned (Marzano, 2003).

In analyzing factors that impact student achievement, John Hattie (2009) concluded that one of the best ways to improve schools is to organize teachers into collaborative teams that (1) clarify what each student must learn and the indicators of learning the team will track, (2) gather evidence of learning on an ongoing basis, and (3) analyze results together to identify which instructional strategies are working and which are not. This, in essence, describes the work of a professional learning community (PLC).

The PLC process is a systems approach to continuous improvement. Through this process, teachers are organized into grade-level, course specific or interdisciplinary teams, in which members work collaboratively toward a common goal while holding all members mutually accountable to improving student learning. The focus of collaboration begins with clarifying essential learning outcomes for that course/grade level in each unit of instruction, then creating common assessments to monitor student attainment of that learning, as well as common criteria used to determine the quality of student work. The team uses data gathered from the common assessments to identify students who need extra time and support to meet the learning expectations, address potential curricular issues and analyze the effectiveness of instructional strategies employed to identify strengths and weaknesses (DuFour, 2009).

The PLC process is specifically designed to create the conditions necessary for educators to become more skillful in their teaching practices. In addition, PLCs play a vital role in improving overall school performance, student engagement, educators’ self-efficacy and overall job satisfaction (DuFour & Fullan, 2013; Eaker & Keating, 2015).

In spite of compelling evidence that working collaboratively is regarded as a best practice, in many schools teachers continue to work in isolation (DuFour, 2004, Eaker & Keating, 2015). Although some schools seem to support the idea of collaboration, the willingness of staff to
collaborate does not extend into the classroom setting. They are often willing to collaborate around issues related to operations, discipline and social climate, but while these areas may be important, they do not represent the type of professional dialogue that occurs in a professional learning community. In a PLC, teachers work together to analyze and improve their classroom practice and engage in an ongoing cycle of inquiry that promote deep learning for the team. This, in turn, helps to improve student achievement (DuFour, 2004).

Writing about the power of the PLC process, Eaker and Keating (2015) emphasize that teachers are the most important players in ensuring high levels of learning for all students and that the culture of a PLC fosters the conditions necessary for this to occur. Teachers in a PLC continually improve as they collaboratively review and analyze the results of their teaching. By working together, PLCs “break down the traditional barriers that lead to isolation, loneliness, and in many cases, a feeling of helplessness”, and they “become places of mutual support, respect, interdependence, and importantly, mutual accountability” (p. 5).

The PLC process not only helps to increase overall teacher effectiveness and ensures greater consistency in delivering high-quality instruction to all students, but also teachers benefit from the shared-power, authority and decision-making inherent to the process (Hord, 2015). In a review of the research, Vesicles, Ross and Adams (2008) conclude that “PLCs honor both the knowledge and experience of teachers and knowledge and theory generated by other researchers. Through collaborative inquiry, teachers explore new ideas, current practice, and evidence of student learning using processes that respect them as the experts on what is needed to improve their own practice and increase student learning” (p. 89).

**Clarity in PLCs**

While there is a large body of research that supports the positive impact of effective PLCs on student achievement, a great deal of ambiguity exists around what is meant by “Professional Learning Communities.” Fisher, Frey, Almarode, Flores and Nage (2020) state that “one of the biggest hindrances to the impact the PLC can have on teaching and learning is the misconception about the intention and implementation of PLCs” (p. 1).

Therefore, one of the first steps to implementing effective PLCs is to build a common understanding of the PLC process and the work involved. In the book *Learning by Doing* (DuFour, DuFour, Eaker, Many & Mattos, 2016), the authors define a PLC as “an ongoing process in which educators work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the students they serve” (p.10).
A common misconception is that the PLC process is a program. Dufour and colleagues (2016) emphasize that the PLC process is not a program: “It cannot be purchased, nor can it be implemented by anyone other than the staff itself. Most importantly, it is ongoing - a continuous, never-ending process of conducting schooling that has a profound impact on the structure and culture of the school and the assumptions and practices of the professionals within it” (p. 10). Dufour and Marzano (2011) stress that “it is a process to be pursued but never quite perfected,” and that it “is not an appendage to existing structures and cultures; it profoundly impacts structure and culture” (p. 22).

Others tend to apply the term PLCs to any meeting in which teachers are together, regardless of the purpose of the meeting (DuFour & Marzano, 2011). Still yet, others tend to view PLCs as a type of book club where members read and discuss a text but may or may not act on the information (DuFour, et al., 2016). All of these misconceptions reflect a lack of deep understanding around the true work that occurs within the PLC process. Reeves and Dufour refer to this as “PLC lite.” In each of these scenarios, the activities do not embrace the key principles of the PLC process and, as a result, fail to lead to higher levels of learning for students or adults (Reeves & DuFour, 2016).

Three Big Ideas of a PLC

The level of impact the PLC process has on a school or district is largely determined by the degree to which they are able to understand and embrace the three big ideas that drive the process: (1) a focus on learning, (2) a collaborative culture and collective responsibility and (3) a results orientation.

The first big idea of a PLC, a focus on learning, is predicated on the belief that “the fundamental purpose of the school is to ensure all students learn at high levels (DuFour, et al., 2016, p. 11). Educators within the school or district view this as their primary responsibility, not just that students are taught the content or simply provided with an opportunity to learn. This commitment to ensuring all students acquire the essential knowledge, skills and dispositions for each grade level or course drives every decision regarding practices, policies and procedures within the organization. In order to ensure that all students learn at high levels, it is important that educators within the school or district continually learn as well. PLCs provide opportunities for ongoing, job-embedded professional learning driven by student results (DuFour & Fullan, 2013).

When schools and districts operate from the belief that their fundamental purpose is to ensure high levels of learning for all students, it changes the way in which educators traditionally work. No longer can teachers or administrators work in isolation. If all students are to achieve high
levels of learning, it requires a **collaborative culture where educators take collective responsibility** for each student’s success within the school or district. Collaborating with other educators is not an option; it becomes an expectation of employment. The goal is for teams to work interdependently in order to achieve common agreed-upon goals for which all members are mutually accountable (DuFour, et al., 2016).

The third big idea of a PLC, a **results orientation**, drives the focus of collaboration within the school or district. To determine if all students are acquiring the essential knowledge, skills or dispositions, educators must continually monitor and collect evidence of student learning. Educators use the results to assess the effectiveness of classroom practices and inform areas of continuous improvement. In addition, student results are used to immediately respond to student needs for intervention or enrichment (DuFour & Fullan, 2013).

In order for collaboration to truly impact student achievement, educators must focus their time and energy on the right work. As explained by Dufour and Marzano (2011):

> “Collaboration is morally neutral. It will benefit neither students nor practitioners unless educators demonstrate the discipline to co-labor on the right work. The important question every district, school, and team must address is not, ‘Do we collaborate?’ but rather, ‘What do we collaborate about?’ To paraphrase W. Edwards Deming, it is not enough to work hard; you must clarify the right work, and then work hard. Effective leaders at all levels will ensure there is agreement on the right work” (p. 83).

**Driving Questions of a PLC**

So, what is the right work that drives the PLC process? As educators collaborate within PLCs in cycles of collective inquiry and action research, there are four critical questions that focus the team on improving student results: (Dufour, et al., 2016)

1. **What do we expect our students to learn?**
2. **How will we know if they are learning?**
3. **How will we respond when some students do not learn?**
4. **How will we extend learning for students who already know it?**

These questions allow educators to engage in what the PLC process is designed for - to learn together. According to Dufour and colleagues (2016), the question “Learn what?” is the most significant question a team will consider because the “entire PLC process is predicated on a deep understanding on the part of all educators of what all students must know and be able to do as a result of every unit of instruction” (p. 113).
In addressing the first question, PLC teams study the standards and local curriculum documents to gain clarity around what students need to know and be able to do to meet those expectations. They establish what proficiency looks like and develop general pacing guidelines for delivering the curriculum and, most importantly, commit to teaching the agreed upon curriculum (DuFour, 2015).

Once the team has clarified what students are expected to learn, they move to the second question of “How will we know if they are learning?” In working through this question, the PLC determines the most effective way to measure student learning aligned to the expected learning outcomes through both daily classroom and team-developed common assessments. Teams establish the criteria they will use to assess the quality of student work and ensure they apply the criteria consistently (DuFour & Marzano, 2011).

According to DuFour and Marzano (2011), the second question “is specifically intended to ensure that the guaranteed curriculum is not only being taught to students but, more importantly, is being learned by students” (p. 91). When teachers work collaboratively in PLCs and commit to addressing certain key skills and concepts as organized in the curriculum documents aligned to the standards, it creates positive peer pressure to honor those commitments. In turn, this dramatically increases the likelihood of a guaranteed implemented curriculum throughout the school or district (DuFour & Fullan, 2013).

As teachers work through the third and fourth questions, they examine the evidence of student learning and identify effective instructional practices and areas for improvement. They develop a plan to support students experiencing difficulty and identify strategies to extend learning for those students who have met the learning outcomes (DuFour & Fullan, 2013).

DuFour and Reeves (2016) urge schools to avoid labeling themselves as PLCs without engaging in the hard work that goes into becoming a PLC. In their article, The Futility of PLC Lite, they state that many schools have adopted the label without actually committing to the substance of the professional learning community processes. To truly implement the PLC process, the authors assert that “educators must focus on the four questions of PLCs as an integral part of their meetings, use common formative assessments in a way that has a specific effect on teaching and learning, and analyze data not as a way to humiliate teachers but rather to elevate the learning of students and faculty members. Finally, real PLCs include specific interventions that lead to measurable improvements in student performance.”
When schools and districts embrace the three big ideas of a PLC and ensure that teams focus on the right work in addressing the four driving questions, they create a true culture of continuous improvement of learning for both students and adults. The culture shifts from thinking in terms of “my” students to “our” students as every member of the organization takes collective responsibility for helping every student achieve.

Figure 2.1 Clarity in PLCs

<table>
<thead>
<tr>
<th>3 Big Ideas of a PLC</th>
<th>4 Driving Questions of a PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on Learning</td>
<td>1. What do we expect our students to learn?</td>
</tr>
<tr>
<td>Collaborative Culture and Collective Responsibility</td>
<td>2. How will we know if they are learning?</td>
</tr>
<tr>
<td>Results Orientation</td>
<td>3. How will we respond when some students do not learn?</td>
</tr>
<tr>
<td></td>
<td>4. How will we extend learning for students who already know?</td>
</tr>
</tbody>
</table>

**Role of Leadership in Supporting PLCs**

In order for a school or district to truly embrace the culture needed to support PLCs, it requires sustained commitment and focus from leaders at all levels throughout the organization. In their book, *Starting a Movement*, Williams and Hierck (2015) state that leaders often set out to implement the PLC process with good intentions. Yet, the work still feels like one more thing to do in a long line, and often educators are merely compliant in “doing” the work of a PLC, which is not the same as “becoming” a PLC. Without true commitment to becoming a PLC, schools and districts will not see the results in student or adult learning.

Based on their observations, Williams and Hierck (2015), categorized different levels of commitment to the PLC process as either “flirting”, dating” or “engaged” with the work. When
educators are “flirting” with PLCs, they tend to simply observe the process from afar with no real action steps to move forward. In other cases, educators may be “dating” PLCs where they are scratching the surface and see the potential in the PLC process. However, they like to keep their options open for the next new thing that comes along. When educators are “engaged” to the PLC process, they have made a commitment to fully embrace the work and take the steps necessary to continually improve. DuFour and his colleagues (2016) added one more layer for educators who are “married” to the PLC process. These educators have chosen this way of life with no desire to return to the old ways of doing things. PLCs have become deeply embedded in the culture of the school and are seen as “the way we do things around here.”

How do leaders move to creating a culture that fully embraces and is “married” to the work of the PLC process as a part of continuous improvement? Dufour and Marzano (2011) point to two adages that are critical to the success of PLCs: (1) addressing the “why” before the “how” and (2) the idea that clarity precedes competence. To support school and district leaders in effectively implementing the PLC process, this guidance suggests the following key leadership strategies:

- Establish Vision and Purpose
- Create Clarity and Coherence
- Create Collaborative Systems and Structures
- Monitor Implementation

For each key leadership action, the following guidance includes possible steps for leaders to consider to help support implementation and shift the culture of the school or district to truly becoming a PLC.

Leadership Strategy # 1: Establish Vision and Purpose

As leaders embark on creating the conditions necessary for a culture that embraces the PLC process, they must start with addressing the “why” before the “how.” This involves working with stakeholders to establish and communicate a clear vision and purpose for undertaking the initiative. Three critical steps to support this leadership action include (1) creating a collaborative leadership team, (2) analyzing current reality and (3) building a shared foundation.

Step 1: Create a Collaborative Leadership Team

As a school or district begins the journey of implementing the PLC process, it is important to note that no single individual within the organization has the necessary expertise, energy and influence to lead the change process without first gaining the support of key stakeholders.
DuFour (2015) states that “even the most competent leaders will struggle to bring about substantive change without the support of allies who are willing to serve as champions for that change” (p. 226). One of the key steps to laying the foundation for the PLC process is to create a collaborative leadership team.

The purpose of the collaborative leadership team, also referred to as a guiding coalition, is to create and sustain a culture of collective responsibility. They work to keep the school and/or district focused on its mission, vision and collective commitments. Members of the leadership team work to unite and coordinate the school and/or district’s collective efforts across grade levels, subjects and departments. The team operates from shared objectives and high levels of trust and helps guide the process with an emphasis on shared leadership, ownership and investment. Through the process of building shared knowledge and consensus, they develop goals, make decisions and then return to their job-alike teams to advocate for why the initiative is vital to the continuous improvement of the school and/or district (Williams and Hierck, 2015).

Instead of thinking of leadership in terms of positional authority, members of the leadership team should view themselves as servant leaders. DuFour (2015) states that it is imperative for the leadership team to view their roles as ensuring teams have everything they need to succeed in what is being asked of them to do as they work to implement the PLC process. For each critical element of the PLC process, the leadership team works together to anticipate the questions teams may have as work through implementation. Dufour, DuFour, Eaker and Many (2010) provide the following questions the team will likely need to address for each critical component (p. 2):

- **Why questions.** Why should we do this? Can you present a rationale for why we should engage in this work? Is there evidence to suggest that the outcome of this work is desirable, feasible and more effective than what we have traditionally done?
- **What questions.** What are the exact meanings of key terms? What resources, tools, templates, materials and examples can you provide to assist in our work?
- **How questions.** How do we proceed? How do you propose we do this? Is there a preferred process?
- **When questions.** When will we find time to do this? When do you expect us to complete the task? What is the timeline?
- **Guiding questions.** Which questions are we attempting to answer? Which questions will help us stay focused on the right work?
- **Quality questions.** What criteria will be used to judge the quality of our work? What criteria can we use to assess our own work?
• **Assurance questions.** What suggestions can you offer to increase the likelihood of our success? What cautions can you alert us to? Where do we turn when we struggle?

DuFour et. al (2016) suggests selecting members based on their influence with their peers; those individuals who are seen as knowledgeable, respected and trustworthy can have a major influence on the rest of the group. This may include individuals who traditionally resist change but are important players to getting key staff members to support the work. The team should represent all relevant perspectives and reflect the various expertise and experiences of the school or district (Williams and Hierck, 2015).

When selecting the right people to serve as a part of the leadership team, consider using Kotter’s (2012) four characteristics:

- **Position Power:** Are enough key players on board, especially those who are responsible for leading a large percentage of others and have influence, so that those left out cannot easily block progress?
- **Expertise:** Are the various points of view - in terms of discipline, work experience, nationality, etc. - relevant to the task at hand adequately represented so that informed, intelligent decisions will be made?
- **Credibility:** Does the group have enough people with good reputations in the system so that its pronouncements will be taken seriously by other employees?
- **Leadership:** Does the group include enough proven leaders to be able to drive the change process? You need both management and leadership skills on the guiding coalition, and they must work in tandem, teamwork style. The former keeps the whole process under control, while the latter drives the change. (p.56-57)

At the district level, possible key members include school principals, district office staff, teacher leaders and/or instructional coaches from each school, as well as other key stakeholders, such as parent/legal guardian and board member representatives.

When selecting members for the leadership team at the school level, possible members might include school administrators, teacher leaders, classified and support staff, parents/legal guardians, as well as School-based Decision Making (SBDM) council representatives.

**Step 2: Analyze Current Reality**

Leaders must spend time building shared knowledge throughout the organization as to why PLCs are needed. People throughout the system must have a clear understanding of what the initiative entails and why it is worth their time, energy and expertise. Leaders need to provide a
compelling rationale for the change beginning with assessing the school and/or district’s current reality (DuFour & Fullan, 2013). Without an honest assessment of where the school and/or district is starting from, it is difficult to reach the intended destination.

Analyzing the evidence of the current reality before deciding next steps helps ensure the team makes informed decisions that lead to reaching the end goal. Spiller and Power (2019) state that “the deep work of school improvement takes time and energy, and, most important, understanding the truth of the current reality and working on the right work to exact the change” (p. 87). Possible evidence or data the team might analyze to gain a better understanding of the school and/or district’s current reality includes:

- Student and staff attendance;
- Student discipline data;
- Student learning data;
- Data gathered from perception surveys from various stakeholder groups; and
- Demographic data.

When leaders and teams analyze the data, they should focus on the root causes of underperformance to understand the “why.” It is difficult to create buy-in for the change process if stakeholders do not have a clear understanding why change is necessary. Once the “why” is clear, it is easier to move forward in planning for improvement and creating action plans that are tailored to address the “why” (Spiller & Power, 2019).

After an analysis of the current reality, teams should also spend time identifying evidence of best practice. The team might collaboratively analyze a synthesis of the research on characteristics of high performing schools, such as PLCs, use of clear learning outcomes, ongoing monitoring of student learning, systematic approach to interventions and high expectations for all students. The team might conduct site-visits to see the PLC process in action or hear from schools that have successfully implemented the PLC process (DuFour, DuFour, Eaker, Many, & Mattos, 2016). In doing so, it is easier to identify the gap between current systems, structures and practices in the school and/or district and the systems, structures and practices of high-performing schools and districts. Understanding this gap and having a greater sense of what success looks like, educators then shift to creating a shared mission and vision that embodies what they want to strive to obtain and develop values and goals to help them achieve that vision.
Step 3: Build a Shared Foundation

In his book, *In Praise of American Educators*, DuFour (2015) points out that “the PLC process is to focus less on what educators in high-performing PLCs do and more on how the members of the organization think - the mindset of those educators. The assumptions, beliefs, expectations, and commitments of people in any organization shape the culture of that organization” (p. 100). To address this challenge, DuFour suggests engaging the staff in building consensus around the four essential pillars of the PLC foundation: (1) **shared mission**, (2) **vision**, (3) **values** and (4) **goals**. Once consensus has been established around these four areas, it lays the foundation that drives the daily work of the school and/or district as highlighted in Table 2.1 below.

Table 2.2 Four Pillars of the PLC Foundation

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Guiding Question</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission</td>
<td>Why do we exist?</td>
<td>Clarifies priorities and guides decisions</td>
</tr>
<tr>
<td>Vision</td>
<td>What must our school become to accomplish this purpose?</td>
<td>Provides directions and serves as a basis for assessing practices, policies and procedures</td>
</tr>
<tr>
<td>Values</td>
<td>How must we behave to achieve our vision?</td>
<td>Clarifies the collective commitments members of an organization make to one another</td>
</tr>
<tr>
<td>Goals</td>
<td>How will we mark our progress?</td>
<td>Helps in identifying targets, timelines and evidence that the new behaviors are positively impacting student learning</td>
</tr>
</tbody>
</table>

**Mission**

When focusing on the mission pillar, the school and/or district is responding to the question of “*Why do we exist?*” This question is aimed at getting educators to reach agreement around the fundamental purpose of school. Clearly articulating the fundamental purpose helps to establish priorities and guides decisions. If a school and/or district is to fully embrace the PLC process, then ensuring all students learn must be the core of its mission (DuFour, et. al, 2016). According to Dufour (2015), a “learning-focused culture understands that the school was not built so that teachers have a place to teach - it was built so that the children of the community have a place to learn” (p. 104). This requires educators to shift from schools ensuring students are just “taught” to ensuring all students “learn.”
Dufour (2015) points out that most schools and districts likely have world-class mission statements. In this case, the task for educators embarking on the PLC journey is not in writing a new mission statement. It is in ensuring every practice, policy and procedure is aligned to their fundamental purpose of ensuring high levels of learning for all. Schools and/or districts must work to bring their mission to life by aligning what they do with what they say in their mission.

**Vision**
While the mission statement addresses the “why,” the vision helps address the “what” by responding to the question of “What must we become to accomplish our purpose?” According to Dufour, et. al (2016), when educators collectively work to answer this question, they “attempt to create a compelling, attractive, realistic future that describes what they hope their school will become” (p. 39.) Developing a clear vision provides educators with a sense of direction and a basis for assessing potential strategies, programs and procedures aimed at reaching their goals. It also allows educators to create a list of what to “stop doing” in regards to current practices, policies and procedures because they are not aligned to the mission or vision.

**Values**
Creating a vision statement is meaningless without developing an action plan to reach the intended outcome. The third pillar focuses on stakeholders working collaboratively to address the question of “How must we behave to achieve our vision?” This involves clarifying the collective commitments (values) all members of the school and/or district make to one another. They determine the ways in which all individuals need to act now to reach their future goals. These values guide the individual and collaborative work of each staff member and describe how each person contributes to the overall success of improving student learning (DuFour, et. al, 2016).

To create the conditions in which everyone upholds the collective commitments, leaders need to clearly define, teach, model and continually reinforce each expectation. When educators in a school and/or district reach agreement on what they are prepared to start doing and implement that agreement, it is a key step in closing the gap between their vision and their current reality. Dufour (2015) argues that in the absence of collective commitments and the willingness to hold each other accountable, schools often struggle to truly build a collaborative culture due to personal conflicts and adult drama and student learning suffers as a result.

The collective commitments should show that the system as a whole is committed to working together to improve student learning. By including all stakeholders in the development of the behaviors, it points to the fact that the PLC process works best when the entire school
community and/or district functions in a collaborative and purposeful manner. The collective commitments reflect the shift from teachers working in isolation to teachers working collaboratively and from stakeholders thinking in terms of “my responsibility” to “our responsibility” and from “my students” to “our students” (Marzano, Heflebower, Hoegh, Warrick, & Grift, 2016).

**Goals**

The final pillar addresses the question of “*How will we mark our progress?*” In response to this question, educators need to clarify the specific goals they hope to achieve through implementing the improvement strategies. This involves articulating short-term goals and the steps necessary to reach each goal. Each goal needs to have clearly defined targets, timelines and results that will be gathered to provide evidence of the impact of the improvement strategies on student learning (DuFour, et. al, 2016).

Effective goals are critical components in supporting the three big ideas of a PLC by fostering a results orientation and the individual and collective accountability for improving student learning. In addition, goals are essential to the success of the collaborative team process. In the book, *Learning by Doing* (2016), the authors state that “in the absence of a common goal, there can be no true team” (p. 42). Effective goals help collaborative teams clarify how their work contributes to the overall improvement of the school and/or district and demand evidence of results rather than activity. Establishing achievable short-term goals creates a sense of positive momentum and contributes to the confidence and self-efficacy of the staff (DuFour, 2015).

Once the school and/or district has reached consensus on their mission, vision, collective commitments and have articulated their short- and long-term goals, DuFour (2015) offers four questions the group should utilize moving forward when making decisions:

- “Is this consistent with our purpose?”
- “Will it help us become the school we envision?”
- “Are we prepared to commit to doing this?”
- “Will it help us achieve our goals?”

To support school and/or district leaders with implementation of this leadership strategy, the Kentucky Department of Education (KDE) has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in [Appendix B: Establish Vision and Purpose Toolkit](#).
Leadership Strategy # 2: Create Clarity and Coherence

Once the school and/or district has created and articulated a clear mission and vision and has communicated why the PLC process is critical to the success of both students and adults, it is important to create clarity and coherence throughout the system. To create clarity, leaders must ensure all members of the organization have a clear understanding of what it means to be a professional learning community and what is involved in the process of becoming and sustaining a PLC. In terms of coherence making, leaders need to create a shared mindset among individuals and across the system that is committed to and supports the work involved in becoming a PLC (DuFour & Fullan, 2013). Possible action steps leaders might take to create clarity and coherence include (1) utilizing a simultaneous loose-tight leadership approach, (2) creating a common language, (3) limiting initiatives, (4) effectively communicating priorities and (5) building capacity to lead the process.

Step 1: Utilize a Simultaneous Loose-Tight Approach

When engaging in the complex process of cultural change, it is important to find the appropriate balance between what is tight or non-negotiable and what is loose where people are empowered to make certain decisions. To be successful, DuFour and Fullan (2013) assert that interdependence is the key by creating a system of “defined autonomy.” In this type of system, leaders establish a few non-negotiables (“tights”) that must be adhered to and honored at all levels of the school and/or district. Built within the defined boundaries, people are empowered to determine the best course of action to pursue those priorities.

Once a school or district has established what is “tight” in regards to the implementation of the initiative, leaders must build a shared understanding throughout the system by providing a detailed description of what is meant by each non-negotiable. It is important to provide opportunities for people to offer input and ask clarifying questions. If people have an opportunity to weigh in on what is “tight,” they are more likely to buy-in to what is being asked of them in supporting the PLC process. In addition, leaders must clarify the specific practices and conditions they expect to see in every school (DuFour and Fullan, 2013).

In Learning by Doing, DuFour, et al. (2016) offer the following as important non-negotiables in creating the conditions necessary to support the PLC process (p. 261):

- Educators work collaboratively rather than in isolation, take collective responsibility for student learning and clarify the commitments they make to each other about how they will work together;
• The fundamental structure of the school becomes the collaborative team in which members work interdependently to achieve common goals for which all members are mutually accountable;
• The team establishes a guaranteed and viable curriculum, unit by unit, so all students have access to the same knowledge and skills regardless of the teacher to whom they are assigned;
• The team develops common formative assessments to frequently gather evidence of student learning;
• The school has created a system of interventions and extensions to ensure students who struggle receive additional time and support for learning in a way that is timely, directive, diagnostic and systematic, and students who demonstrate proficiency can extend their learning; and
• The team uses evidence of student learning to inform and improve the individual and collective practice of its members.

At the district level, while these elements must be present in each school, principals still have autonomy in regards to the teaming structures, how they will build in time for the teams to collaborate, the process used for teams to create common assessments and the way in which the school implements a schoolwide system of interventions into their master schedule (DuFour & Fullan, 2013).

At the school level, teachers are empowered to work collaboratively in making important decisions regarding the norms and goals for their team, what to teach, sequencing and pacing of the content, the assessments used to monitor student learning and the criteria they will use in assessing the quality of student work (DuFour, et al., 2016).

Step 2: Create a Common Language

Important to the success of any initiative is ensuring all stakeholders are speaking a common language throughout the school and/or district regarding the key terms associated with the improvement strategies. Leaders need to ensure everyone moves beyond a superficial use of the terms to a deep understanding of the meaning of each term and how that concept or idea fits into the overall picture of the PLC process. Key steps to building understanding include (DuFour & Marzano, 2011):

• Identifying the key terms required to move forward;
• Teaching those terms through descriptions, explanations and examples;
• Engaging staff in discussions of the key terms; and
• Periodically assessing levels of understanding.
According to DuFour and Marzano (2011), when people throughout the school and/or district possess a shared understanding of the critical vocabulary regarding the PLC process, it greatly increases the likelihood of successful implementation. The toolkit in Appendix B contains a list of possible terms associated with PLCs.

Step 3: Limit Initiatives

Dufour and Marzano (2011), argue that one of the biggest obstacles to school improvement is pursuing too many initiatives. This is often further compounded by a lack of coherence among the various initiatives, which leads to many educators throughout the school or district suffering from what Doug Reeves (2011) refers to as “initiative fatigue.” According to Reeves (2010), the Law of Initiative Fatigue states that “when the number of initiatives increases while time, resources, and emotional energy are constant, then each new initiative—no matter how well conceived or well intentioned—will receive fewer minutes, dollars, and ounces of emotional energy than its predecessors” (p. 27). In addition, the numerous initiatives are often seen as fragmented, disconnected, short-term projects that result in educators investing little time and energy to implement because they feel, “This too shall pass.”

In his research, Reeves (2011) concluded when leaders have a sustained focus combined with effective monitoring and a sense of efficacy with educators throughout the school or district, it produces positive results for all students in the school regardless of demographics. In the absence of a sustained focus over an extended period of time, even the most research-based initiatives will fail.

To avoid initiative fatigue, school and/or district leaders should identify a few key evidence-based priorities that support continuous improvement and then pursue them relentlessly. As they work to implement the different elements of the key strategies, leaders need to stress how they connect to the bigger picture of the vision, mission, values and goals. It is important for educators throughout the system to see how all the pieces connect to support one sustained improvement effort over time. In terms of the PLC process, examples of the different elements include organizing staff into collaborative teams, establishing a guaranteed, viable curriculum, creating common formative assessments, analyzing evidence of student learning to improve teacher practice and creating systems to support interventions and enrichment (DuFour & Marzano, 2011).

Step 4: Effectively Communicate Priorities

A critical element in the successful implementation of any improvement initiative is for school and/or district leaders to clearly communicate the goals and priorities to all stakeholders.
Clarity in communication must be ongoing throughout the implementation process. Leaders need to keep the message simple and consistent when speaking with various stakeholders. Their actions must align to the identified priorities and they must ensure that leaders at all levels can speak the same message and clearly articulate which elements are “tight” and which are “loose” (DuFour & Marzano, 2011). Additionally, leaders must ensure support of their goals and priorities from their local SBDM and/or board of education.

Spiller and Power (2019) believe that the most effective leaders are those who pay attention to and work on being thoughtful, respectful and considerate communicators. For communication to be truly effective, leaders must value 2-way communication as they work with all stakeholders throughout the implementation process. This involves asking clarifying questions, being an attentive listener and taking time to truly understand before acting. Effective leaders initiate dialogue, develop formal and informal strategies to ensure all perspectives are heard and valued, and seek feedback to make necessary adjustments along the way (Dufour & Fullan, 2011).

Step 5: Build Capacity to Lead the Process

In order to successfully embrace the PLC process and bring about cultural change, it is critical to build the capacity of staff to lead the change process in their respective schools. In a loose-tight system, district leaders must hold principals accountable for leading the PLC process while also being accountable to them for providing training and support needed to be successful (DuFour & Fullan, 2013). The same is also true at the school level as principals build capacity of the leadership team and collaborative team leads.

Leaders at all levels must provide ongoing training and support to meet the established expectations. This involves initial training to build a foundational understanding of the PLC process and the rationale for why the initiative is critical to improve student learning. Leaders should consider accompanying principals, leadership team members and lead teachers on site visits to schools or districts with high-functioning PLCs. Additionally, leaders could facilitate article and book studies on the PLC process to build deeper understanding overtime throughout the implementation process (Dufour & Fullan, 2013).

As a part of ongoing support, district leaders need to provide collaborative time during principals’ meetings for school leaders to identify and resolve implementation challenges. Using the meetings in this way provides opportunities for principals to collaborate with colleagues to learn from each other’s successes and help brainstorm possible solutions to problems (DuFour & Fullan, 2013). At the school level, the principal works with his/her collaborative leadership team to identify and resolve challenges that arise from the PLC teams.
One way to promote shared leadership at the school level is for principals to designate teacher leads for each collaborative teacher team. There are different approaches principles can take in assigning team leads. In the first option, the principal may designate the leader for each collaborative team by recruiting individuals based on the respect of their peers or their leadership potential. Another option involves the principal asking each team to select its leader within clearly defined parameters. For small teams, the principal could encourage members to rotate responsibilities such as team leader, recorder, or timekeeper throughout the year. Once selected, team leads are responsible for serving as a liaison between the collaborative teacher team and the principal as they work together to become a PLC (DuFour, 2015).

Regardless of the strategy a principal might use to designate team leads, it is important to take time to build the leadership skills of the team leads so they can effectively facilitate collaborative discussions, support members of the team and develop other leadership skills to promote team success (DuFour, 2015). Spiller and Power (2019) argue that “it is one thing to say that you have teacher leaders; however, it is another to know your teacher leaders understand how to lead the right work” (p. 73).

Dufour and Marzano (2013) suggests that team leads need support and ongoing training in skills such as building consensus, facilitating dialogue, collaborative problem solving, conducting effective meetings and resolving conflict. They also should be taught how to lead colleagues through the process of completing specific tasks aligned to the work of a high-performing PLC. For example, as a part of a focus on results, each team should set a SMART goal aligned to school and/or district goals. To help ensure the team is successful, principals must work with their team leads in understanding what a SMART goal is and how to work with their respective team to develop the goal.

At all levels of the system, leaders must be equipped with the knowledge and resources that increase the likelihood of the collaborative team’s success. This includes leaders from the central office, principals, leadership teams and the team leads. In supporting those leaders individually and collectively as they work their way through each step of the collective inquiry process, it strengthens the collective commitments and collective responsibility that is critical to sustaining the PLC initiative (DuFour & Marzano, 2013).

To support school and/or district leaders with implementation of this leadership strategy, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix B: Create Clarity and Coherence.
Leadership Strategy # 3: Create Collaborative Systems and Structures

For a school and/or district to transform their culture from one of teacher isolation to one that embraces collaboration, leaders must create systems and structures that signal the importance of this shift in mindsets and beliefs. If leaders say they value teachers working collaboratively, they must ensure the conditions necessary for this to occur are put in place. This includes (1) organizing staff into meaningful teams, (2) providing teams with time to collaborate, (3) clarifying the work teams must accomplish and (4) creating a school-wide system of interventions.

Step 1: Organize staff into meaningful teams

At the heart of the PLC process lies the work of a high-performing team. When principals organize staff into meaningful collaborative teams, it is another avenue for building shared leadership. According to DuFour and Marzano (2011), when teams are empowered to make key decisions within clearly defined parameters, they are less likely to cite the decisions of others as the core of their problems because they are part of the decision-making process. This is important because people tend to advocate for and support what they help create.

The collaborative team process key to the success of PLCs requires people to work together interdependently to achieve common goals for which members are mutually accountable (Dufour & Fullan, 2013). Members benefit from shared responsibility for engaging in collective inquiry specifically designed to improve instructional practice and student learning. Without these conditions in place, teams will struggle to find meaning in their teams and will be prone to drift toward superficial conversations. Dufour (2015) stresses that “absent these three key elements, a group may be congenial or collegial, but its members are not a team” (p. 125). Groups do not become teams simply because that is what someone labels them.

When organizing staff into meaningful teams, the most important criterion is to base assignments on which team members have a shared responsibility for student learning and addressing the four questions that drive a PLC (DuFour & Fullan, 2013; DuFour & Marzano, 2011; Mattos, et al., 2016):

1. What do we expect our students to learn?
2. How will we know if they are learning?
3. How will we respond when some students do not learn?
4. How will we extend learning for students who already know it?

Research has shown that grade-level or course content teams are the most effective at improving student and adult learning (Gallimore, et al., 2009; Little, 2006). Little (2006) argues
that when the team’s learning is content-based and they work collaboratively to focus on the curriculum, assessment and instruction aligned to their content, teachers are more likely to improve their practice.

The way in which principals organize their staff into meaningful teams is dependent upon the size and make-up of the school and/or district. Table 2.2 below includes a list of possible team structures that support collaboration focused on improving student and adult learning (Dufour, et al. 2016).

Table 2.3 Possible Team Structures

<table>
<thead>
<tr>
<th>Team Structure</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade-level or course-content team</td>
<td>All teachers teaching the same grade-level or course</td>
<td>All 3rd grade teachers; all geometry teachers</td>
</tr>
<tr>
<td>Vertical teams</td>
<td>Link teachers with those who teach content above or below their students</td>
<td>K-2 teachers; Spanish I-IV teachers</td>
</tr>
<tr>
<td>Electronic Teams</td>
<td>Job-alike teachers in different schools that use technology to collaborate across the district, state, or world</td>
<td>All physical education teachers for each elementary school in a district</td>
</tr>
<tr>
<td>Interdisciplinary Teams</td>
<td>Members from multiple courses are mutually accountable for an overarching academic common goal</td>
<td>7th grade math, ELA, science, and social studies teachers working together to improve student proficiency in non-fiction reading and writing across the curriculum</td>
</tr>
<tr>
<td>Logical Links</td>
<td>Teachers placed in teams that are pursuing outcomes linked to their areas of expertise</td>
<td>A special education provides support to a biology team to help special education students achieve the intended outcomes of the course</td>
</tr>
</tbody>
</table>

Again, the key to organizing teachers is to utilize a structure that allows them to engage in meaningful collaboration that benefits the teachers and their students. The effectiveness of the team structure depends on the extent to which it supports teacher dialogue and action aligned to the four driving questions of a PLC (DuFour, et al., 2016).
Step 2: Provide teams with time to collaborate

One of the most vital resources leaders can provide when attempting to create a culture of continuous improvement is time for teams to collaborate (DuFour & Fullan, 2013). If leaders are to ensure their actions align with creating a collaborative culture, then they must provide teams with the necessary time to do the work being asked of them (DuFour, et al., 2016). For many schools and districts, finding time within the schedule for collaboration may be challenging, and there is no one-size-fits-all solution. Here is a list of possible strategies adapted from Learning by Doing (Dufour, et al., 2016) to help leaders to address the issue of time (pp. 65-67):

- **Common Planning**: The master schedule is built to provide same grade-level or course content teachers with common planning periods. Each team then determines one day each week to engage in the collaborative work of a PLC instead of individual planning time.
- **Parallel scheduling**: Schedule common planning time by assigning the specialists (librarians, music teachers, art teachers, guidance counselors, etc.) to provide lessons to students across an entire grade level at the same time each day. Each team then determines one day each week to engage in the collaborative work of a PLC instead of individual planning time. Time also must be built in for Specials teachers to collaborate.
- **Adjusted start and end times**: Members of a team, department or an entire faculty agree to start their workday early or extend their workday one day each week to gain collaborative team time. In exchange for adding time to one end of the workday, the teachers are compensated by getting the time back on the other end of that day.
- **Shared classes**: Combine students across two grade levels or courses into one class for instruction. While one teacher or team instructs the students, the other team engages in collaborative work. The teams alternate instructing and collaborating to provide equity in learning time for students and teams.
- **Use large group lessons, testing and assemblies**: Teacher teams coordinate activities that require supervision of students rather than instructional expertise (i.e., videos, resource lessons, read-alouds, assemblies, testing). Nonteaching staff supervise students while the teachers engage in team collaboration.
- **Banked time**: Over a designated period of days, extend the instructional minutes beyond the required school day. After banking the desired number of minutes, end the instructional day early to allow for faculty collaboration and student enrichment.
- **Use in-service and faculty meeting time**: Schedule extended time for teams to work together on staff development days and during faculty meeting time.
Whichever combination of strategies a school and/or district utilizes, that collaborative time should be non-negotiable and never sacrificed for other purposes (Marzano, et al., 2016).

Step 3: Clarify the work teams must accomplish

Even if people are organized into meaningful teams and given the time to collaborate, without a focus on the right work they will not experience higher levels of student achievement. This applies to all levels of the system from principals’ meetings at district level to teacher conversations at the school level (DuFour & Fullan, 2013). Dufour and colleagues (2016) argue that “in a PLC, the reason teachers are organized into teams, the reason they are provided with time to work together, and the reason they are asked to focus on certain topics and complete specific tasks is so that when they return to their classrooms they will possess and utilize an expanded repertoire of skills, strategies, materials, assessments, and ideas in order to impact student achievement in a more positive way” (p. 67).

In a study of districts that implemented the PLC process for a minimum of three years, researchers focused on why some of those districts experienced dramatic gains in student achievement while others remained flat. The study revealed that in all the districts teachers were provided time to collaborate. The difference in achievement came down to what occurred during the team meetings. The districts that experienced gains in student achievement put processes in place to ensure the teams were focused on the right work (DuFour, 2015).

School and/or district leaders must establish clear parameters and priorities that guide the team toward the goal of improving student learning. Principals should meet regularly with team leads to agree on the work that must be done, determine a timeline for completion of the work, as well as clarify the products or evidence teams will provide to demonstrate their work (Mattos, et al., 2016). This helps teams to avoid focusing on frivolous topics and instead focus their conversations on specific aspects of teaching and learning as they address the four questions that drive the PLC process (DuFour, et al., 2016). By defining what is tight, each team is then provided the autonomy to determine the agenda for their meetings. It is also important for leaders to provide teams with meaningful and timely professional learning necessary to complete the work and to offer templates and models to help guide and assess the quality of their work (DuFour, 2015).

When looking at the work of a collaborative team, some of the work is addressed annually (i.e., team norms, SMART goals), and some are repeated throughout the year as part of the continuous improvement cycle. For example, for each unit, teams will establish clear learning outcomes, agree on pacing, develop common formative assessments, analyze results of those assessments and act on evidence of learning to support students and improve instructional
practice. Below is an example of a possible timeline that a principal and team leads might establish (Mattos, et al., 2016):

1. **After the second meeting**: Present team norms and SMART goal.
2. **After the fourth meeting**: Present the essential learning goals for the first unit of teaching.
3. **After the sixth meeting**: Present first common assessment.
4. **After the eight meeting**: Present analysis form a common assessment, including areas of celebration, areas of concern, and strategies for proceeding.
5. **After the tenth meeting**: Present the essential outcomes for the next unit. (p.60)

While the team only completes step 1 at the beginning of the year, the remaining steps repeat for each new unit of study for the grade-level or course content team. The team members clearly know what is expected of the team, when it must be completed and the product that will show evidence of their work. In return, principals ensure that each team receives the time, resources and support necessary to accomplish the work and improve student learning (Mattos, et al., 2016).

**Step 4: Create a schoolwide system of interventions**

In their book, *Leaders of Learning*, DuFour and Marzano (2011) claim that “one of the most persistent brutal facts in education is the disconnect between the proclaimed commitment to ensure all students learn and the lack of a thoughtful, coordinated, and systematic response when some students do not learn in spite of the best efforts of their individual classroom teacher” (p. 173). This misalignment between purpose and practice often results in schools playing an educational lottery with their students, meaning that the response to students when they struggle is dependent upon the randomness of the teacher to whom they are assigned.

If a school and/or district is to substantially shift their culture to one that ensures all students learn, it is imperative for their actions to impact both individual teacher practice and the collective practice of the school when students struggle (DuFour & Marzano, 2011). This requires schools to develop **highly effective, systematic interventions** that provide students with the additional time and support they need. **Interventions** are anything a school does above and beyond core instruction that all students receive. If it is **systematic**, then the school guarantees every learner receives the help needed regardless of the teacher he/she is assigned. For the support to be **effective**, the interventions used are evidence-based and targeted to meet the individual needs of each student (DuFour, 2015; Mattos, et al., 2016).
Implementing a schoolwide system of interventions may look different from one school to another, but DuFour (2015) argues that leaders must be insistent that specific critical elements of effective interventions are present in their schools. He suggests the following “tight” elements (p. 202):

- Interventions must be provided in addition to effective, grade-level Tier I instruction, not in place of it.
- An effective system of interventions starts with the foundation of strong Tier I instruction delivered to all students.
- There must be a systematic and timely process to identify students who need additional time and support.
- The master schedule must allocate time for supplemental and intensive interventions.
- Interventions must be targeted by student, by standard.
- Interventions must be provided by trained professionals.
- Interventions must be mandatory; not optional for students to attend.
- Interventions must not come at the expense of students who succeed in core instruction.

While the above elements must be “tight” in each school, the “loose” is in how each school implements these practices. For more information about interventions and how they fit into the bigger picture of the Multi-Tiered System of Supports (MTSS) framework, please visit KDE’s MTSS site.

To support school and/or district leaders with implementation of this leadership strategy, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix B: Create Collaborative Systems and Structures.

Leadership Strategy # 4: Monitor Implementation

In any organization, what gets monitored gets done. As a school and/or district undertakes the work of fully embracing a PLC culture, it is important that leaders continually monitor the critical elements necessary to ensure its mission and vision become a reality. As a part of this leadership strategy, possible action steps include (1) monitoring and providing ongoing support, (2) addressing resistance and conflict and (3) celebrating progress.

Step 1: Monitor and Provide Ongoing Support

Principals and/or district leaders along with their collaborative leadership team need to establish a process for monitoring the work of the teams. A key component to effective
monitoring relies upon school and/or district leaders to clearly communicate priorities and goals and the evidence that will be gathered to determine what is working, what is not working and what is needed to improve. Leaders themselves must function as PLCs as they work collaboratively to monitor the ongoing work of adults, just as teacher teams monitor the ongoing learning of students (Mattos, et al., 2016).

One way to monitor PLC implementation is through examination of the products that flow out of the collaborative work of the teams. According to DuFour and Marzano (2013), these products serve as the primary sources of dialogue among teachers in a team, between the team and principal, and between the principal and district leaders. Examples of products include team norms, SMART goals, common assessments and student data. Through an examination of these products, leaders can look for areas across the board where progress is being made and identify common places teams may be struggling. It also allows the leader to better differentiate the support needed to move each team forward. It might be that some teams are unable to provide tangible evidence they are making progress on the right work. Some teams may be doing the right work, but not doing it well. Other teams may be making progress on some of the work but need help in a specific area. (DuFour et al., 2016; Mattos, et al., 2016).

Leaders also need to create feedback loops focused on transparency of results from common assessments, collective analysis of results and shared responsibility for improving results. School leaders need to have regular contact with the collaborative teams in order to maintain 2-way communication. Possible ideas include the leader attending portions of a team’s meeting, meeting with the team lead on a regular basis and/or asking each team to quarterly present specific products and to collaboratively discuss strengths and ways to improve. In doing so, leaders are able to stay up to date on the team’s success and identify support needed by the team or an individual teacher as they work toward becoming a highly effective PLC (Marzano, et al., 2016).

At the district level, one way to monitor the implementation process is to utilize principals’ meetings where principals are asked to demonstrate what they have done to implement the PLC process by explaining the steps they have taken using specific evidence, such as examples of team norms, student results from common assessments and the school schedule that supports a schoolwide system of interventions (DuFour & Marzano, 2011). All the principals, along with district leaders, then work collaboratively to help identify and resolve problem areas in a school and learn from those that are being successful in improving student learning (DuFour & Fullan, 2013).
At both the school and district level, it is important for leaders to build trust among the staff to ensure the focus is on informing and improving practice, not about rating or ranking the schools and/or the teachers. The routine practice of examining evidence of student learning and products of the work of collaborative teams highlights how the PLC process contributes to continuous improvement by ensuring adult learning is aligned to student learning. This, in turn, improves both the individual and collective capacity of all members of the school and/or district (DuFour, 2016).

Step 2: Address Conflict

With any initiative that requires a cultural shift in mindset and behaviors, there will likely be instances when people fail to honor the agreed-on priorities and collective commitments. The ultimate goal is to create a culture that is both strong and open enough that members throughout the school and/or district use the violation as an opportunity to reinforce the core values through peer pressure by essentially saying, “That is not how we do it here.” Knowing that conflict is a natural part of any substantial change process, the key is not to eliminate or avoid conflict; rather it is to learn how to productively manage the conflict (DuFour, et al., 2016).

Effective leaders must demonstrate the willingness to confront individuals when their behavior is in direct conflict with the established “tights” of the collective commitments. The unwillingness of leaders to address an obvious problem and a reluctance to hold people accountable to the agreed upon behaviors severely weakens the PLC process and the leader’s credibility with the staff (DuFour, 2015; DuFour, et al., 2016). When addressing conflict, the key is to focus on the behaviors, not on the individual’s attitude. In Learning by Doing (2016), the authors state that “Work that is designed to require people to act in new ways create the possibility of new experiences. These new experiences, in turn, can lead to new attitudes over time” (p. 220).

When an individual’s behavior does not adhere to the school and/or district’s collective commitments, leaders need to have a crucial conversation to insist the person change his/her behavior in a way that supports the PLC process. DuFour (2015) suggest the following guidelines when having these types of conversations (p. 238-240):

- Conduct the conversation in private.
- Express specific concerns regarding the behavior of the individual and avoid generalities or judgements about attitudes.
- Contrast the individual’s behavior with the collective commitments that staff has made to better achieve the mission of the school. Remind the individual that these
commitments were created by the entire faculty and that he/she had a voice in this process.

- Invite the individual to explain his/her behavior in light of the commitments. Look for areas of agreement and common ground. Be prepared to share specific research and evidence to support why the requested behaviors are desirable and necessary.
- Clarify the very specific behaviors that you will require of the individual both verbally and in writing to avoid any misunderstandings.
- Invite the individual to suggest any support, training, or resources he/she may need to comply with the directive.
- Clarify the specific consequences that will occur if the individual does not comply with the directive.

After the crucial conversation, it is important for leaders to monitor the individual’s behavior and to follow through on the specific consequences if the person fails to adhere to the discussed behaviors. Even if the crucial conversation does not result in a positive outcome, it is an important component of clear communication with the rest of the staff. If leaders take the time to build understanding of the processes and behaviors vital to the success of PLCs but fail to address individuals who blatantly disregard them, it communicates to the staff that maybe those processes and behaviors are not so vital after all (DuFour, 2015). The goal for leaders in addressing the violations is not only about changing the individual’s behavior but also to clearly communicate priorities throughout the school and/or district and to maintain trust and credibility with the staff (DuFour, et al., 2016).

Step 3: Celebrate Progress

While it is critically important to the success of PLCs for leaders to address conflict and resistance, it is equally imperative that leaders also recognize and celebrate the effort and incremental progress achieved throughout implementation (DuFour & Marzano, 2013). Intentional and specific celebrations serve to reinforce the shared mission, vision, collective commitments and goals of the school and/or district. Researchers consistently highlight the importance of planning for short-term wins to help members throughout the organization to maintain focus on the improvement efforts (Elmore & City, 2011; Fullan, 2011).

DuFour (2016) emphasizes that the PLC process is a journey, and unless people see evidence that the work is making an impact, they are not likely to continue the journey. School and/or district leaders must work within their leadership teams to establish a series of incremental, manageable steps aligned with implementation of key elements of the PLC process that will be used to mark short-term wins along the way. For example, when every team has created a SMART goal and developed the collective commitments they will use to achieve that goal,
leaders should publicly celebrate that with staff. Through leaders drawing attention to and publicly celebrating short-term wins, Fullan (2011) states that this helps people throughout the school and/or district to believe in their collective ability to tackle the next challenge as they build off of their previous successes. This creates positive momentum and builds both the individual and collective efficacy of the staff.

DuFour et al. (2016) recommend the following four keys for incorporating celebration into the school and/or district culture (pp. 222-223):

- **Explicitly state the purpose of the celebration**: The rationale for public celebration should be carefully explained at the outset of every celebration. Staff members should be continually reminded that celebration represents an important strategy for reinforcing the school and/or district’s shared mission, vision, collective commitments and goals and that it is the most powerful tool for sustaining the improvement process.

- **Make celebration everyone’s responsibility**: Recognizing extraordinary commitment should be the responsibility of everyone in the organization, and each individual should be called on to contribute to the effort. All staff members should have the opportunity to publicly report when they appreciate and admire the work of a colleague.

- **Establish a clear link between the recognition and the behavior or commitment you are attempting to encourage and reinforce**: Recognition must be specifically linked to the organization’s mission, vision, collective commitments and goals if it is to play a role in shaping culture. It is imperative to establish clear parameters for recognition and rewards. The answer to the question, “What behavior or commitment are we attempting to encourage with this recognition?” should be readily apparent. Recognition should always be accompanied with a story relating the efforts of the team or individual back to the core foundation of the school and/or district. It should not only express appreciation and admiration but also provide others with an example they can emulate.

- **Create opportunities for many winners**: Celebration will not have a significant effect on the culture of a school or district if most people in the organization feel they have no opportunity to be recognized. In fact, celebration can be disruptive and detrimental if there is a perception that recognition and reward are reserved for an exclusive few. Developing a PLC requires creating systems specifically designed not only to provide celebrations but also to ensure there are many winners.

To support school and/or district leaders with implementation of this leadership strategy, the KDE has created a supplemental resource toolkit that includes resources, templates, samples
Role of Teachers in Effective PLCs

The heart of the PLC process lies in the work of high-performing teams. According to Eaker and Keating (2015), teachers are the most important players in improvement efforts aimed at ensuring high levels of learning for all students. PLCs create the conditions in which teachers are valued, empowered and provided opportunities to continually grow and learn as true professionals. In a culture that embraces PLCs, teachers are viewed as the key transformational leaders in a school and/or district because of their position to directly impact classroom instruction and assessment aimed at improving student learning.

In a school and/or district that promotes a simultaneous loose-tight leadership approach, teachers are expected to work collaboratively in teams rather than in isolation, take collective responsibility for student learning and clarify the commitments they make to each other about how they will work together. Within the school and/or district established “rights,” teachers are empowered to make important decisions, such as agreeing on team norms and goals, what to teach in each unit, the sequencing and pacing of the content, the assessments used to monitor student learning and the criteria used to assess the quality of student work (DuFour, et al., 2016).

When a school and/or district shifts from a culture of teacher isolation to one that requires collaboration, it is important for teachers to have clarity around the work they are being asked to do. DuFour, et al. (2016) stress that just having teachers merely collaborate will not improve a school: “The pertinent question is not, ‘Are they collaborating?’ but rather, ‘What are they collaborating about?’” (p. 59). The purpose of collaboration in a PLC is to improve student learning, and this can only be accomplished if the collaboration is focused on the right work. This once again ties back to the four critical questions that define the work of a high-performing PLC (Dufour, et al., 2016).

- **What do we expect our students to learn?** Teacher teams identify the essential knowledge, skills and dispositions each student is to acquire as a result of each unit of instruction.
- **How will we know if they are learning?** Teacher teams use team-developed common formative assessments to elicit and interpret evidence of student learning for each unit of instruction.
• **How will we respond when some students do not learn?** Teacher teams identify students who need additional time and support by standard for every unit of instruction. They use evidence of student learning from common formative assessments to analyze and improve their individual and collective instructional practices.

• **How will we extend learning for students who already know it?** Teacher teams identify students who have reached identified learning outcomes to extend the student’s learning.

Building Trust in a PLC

For teachers to work collaboratively to address the four critical questions, they must overcome the fear that they may be exposed to their colleagues and administrators as ineffective. The using student results from common formative assessments may show one teacher as being less effective than another teacher can cause teachers to feel exposed and vulnerable. To help teachers in overcoming this fear, Patrick Lencioni (2003) argues that the first and most important step to creating a cohesive and highly effective team is to establish vulnerability-based trust. Graham and Ferriter (2010) also state that trust may be the most important ingredient in developing a highly functional PLC. When trust is present, teachers on effective teams learn to acknowledge their own mistakes, weaknesses and failures. Based on analysis of student learning, they ask for help from colleagues with strong student results. They recognize and value other team members’ strengths and are willing to learn from each other to improve learning for all students (Lencioni, 2003).

According to Marzano, et al. (2016), when trust is not present in a collaborative team, members tend to blame each other when problems arise instead of working together to address them. Members may waste time and energy focusing on how to make themselves look better in relation to their peers and are not as likely to speak up and share their honest opinions. Additionally, Lencioni (2003) states that a lack of trust may lead to the avoidance of productive conflict as teams avoid topics that require them to work interdependently. They settle for the appearance of agreement rather than engaging in inquiry and advocacy focused on improving the results of student learning. This superficial harmony leads to members not pushing each other to honor the agreement, which leads to a lack of accountability. This, in turn, violates the very heart of a high performing PLC in which teams work interdependently in order to achieve common agreed-upon goals for improving student learning in which all members are mutually accountable.

When trust is present on a team, it supports productive collaboration as teachers discuss PLC-related issues, such as clarifying what the standards are asking students to know and be able to do, creating assessments to measure student learning, reviewing assessment data and
discussing evidence-based instructional strategies. Marzano, et al. (2016) stresses that “productive collaboration does not mean that everyone agrees all the time. In fact, it often means the opposite - frequent disagreement is necessary” (p. 27). However, team members should argue about ideas and practices that improve learning, rather than with each other.

As teams work to develop trust, Hord and Sommers (2008) provide the following conversational guidelines for respectful and productive discussions:

- **Listen**: Focus what is being said instead of waiting for your turn to speak.
- **Set aside judgement**: Remain open to various perspectives and new ideas.
- **Ask questions**: Seek clarity before making a decision about what has been said.
- **Make observations**: State your perspective or restate another person’s perspective without passing judgment.
- **Stay open**: Let the discussion run its course; do not force judgement or decisions too soon.
- **Clarify goals**: Restate and ask questions to clarify the goal of the conversation; shift focus to what the team wants, rather than what the team does not want.

One way to support teams in developing trust is to utilize norms and protocols as they work collaboratively to address the four critical questions of a PLC. Norms refer to the standards of behavior that members agree upon and are often referred to as “commitments.” According to Mattos, et al. (2016), “norms enhance productivity, promote collaboration, and create the environment for a successful experience among adults in the school” (p. 65).

Protocols provide an outline of a process teams may use to accomplish a task or to develop a product. They provide a structure that guides the team’s conversations and typically includes a recommended time frame for each step of the process. Many protocols also describe specific roles and responsibilities each member of a team will play. As teams work to build trust among its members, protocols help create the conditions necessary to promote more effective conversations around improved teaching and learning (Mattos, et al., 2016).

Create Team Norms

Building trust on a team is an ongoing process but is a critical element necessary to support productive collaboration. In addition to establishing clarity around the work they will do, teachers also benefit from establishing clarity around how they will work together and the expectations of each member of the team. One of the first steps to establishing trust is for teams to create norms that clarify their expectations of one another regarding procedures, responsibilities and relationships (DuFour, et al., 2016).
Team norms act as the guiding principles by which a collaborative team governs itself and its work. They help validate the purposes of the team and serve as a reminder of how the team members have agreed to work together (Marzano, et al., 2016). According to DuFour, et al. (2016), “when individuals work through a process to create explicitly stated norms, and then commit to honor those norms, they increase the likelihood they will begin to function as a collaborative team rather than as a loose collection of people working together” (p. 72).

Before a team works through a process to develop their norms, DuFour, et al. (2016) recommends that members have an open and honest conversation about the expectations they have and to reflect on and discuss their past experiences working with groups. It is helpful to have each member describe a time when he/she was a member of a group, committee, task force, etc., that proved to be a negative experience and to explain the specific behaviors or conditions that made it so negative. Then, have each member describe an experience in which he/she felt a part of an effective team and identify the specific behaviors or conditions that attributed to its success. The team can use the responses to identify commitments that would prevent the negative and promote the positive aspects if all participants agree to honor those norms.

Creating norms is not about simply establishing rules of behavior. Norms clarify promises that cultivate trust in a team. During the process of developing norms, discussion should occur around how the teams will address topics such as time (punctuality and timeliness), communication (listening and responding), decision making (inquiry and advocacy), participation (attendance and engagement), expectations (roles and responsibilities) and conflict resolution (Garcia, et al., 2015; Mattos, et al., 2016). When creating team norms, DuFour, et al. (2016) offer the following considerations (pp. 73-74):

- **Each team should create its own norms**: Asking a committee to create team norms all teams should honor is ineffective. Norms are collective commitments that members make to each other, and committees cannot make commitments for a team. Norms should reflect the experiences, hopes and expectations of a specific team’s members.
- **Norms should be stated as commitments to act or behave in certain ways rather than as beliefs**: The statement, “We will arrive at meetings on time and stay fully engaged throughout the meeting,” is more powerful than, “We believe in punctuality.”
- **Norms should be reviewed at the beginning and end of each meeting for at least six months**: Norms only impact the work of a team if they are put into practice over and over again until they become internalized. Teams should not confuse writing norms with living norms.
• **Teams should formally evaluate their effectiveness at least twice a year:** This assessment should include exploration of the following questions:
  - Are all members adhering to the norms?
  - Does the team need to establish a new norm to address a problem occurring on the team?
  - Are all members of the team contributing to its work?
  - Are all members working interdependently to achieve the team’s goal?
• **Teams should focus on a few essential norms rather than creating an extensive laundry list:** Less is more when it comes to norms. People do not need a lot of rules to remember, just a few commitments to honor.
• **One of the team’s norms should clarify how the team will respond if one or more members are not observing the norms:** Violations of the team norms must be addressed. Failure to confront clear violations of the commitments members have made to each other will undermine the entire team process.

Once a team has created a final list of norms, members should come to a shared understanding of what each norm really means. This includes developing a brief description of what each norm might “look like” or “sound like” if it were being followed (Marzano, et al., 2016). As a final step, each team should describe the process for how members will respond when an individual violates a team norm. When teams clarify what will happen when members violate the norms at the beginning of the collaborative team process, it helps to establish the rules of engagement before conflict arises. Mattos, et al. (2016) offers the following suggestions for addressing a norm violation (p. 63):

- Give a nonverbal cue that a norm has been violated. Team members might pick up an object (for example, a stuffed animal representing the school’s mascot or the face of Norm from the television show *Cheers* mounted to a stick) to signal that a norm has been broken and then proceed to describe how the norm was broken.
- Put the topic (the specific norm) on the next agenda and talk about the impact violating the norm has on the team.
- The team leader or team discusses the problem with the individual who did not honor the norm in an effort to recommit that person to the norm process.
- Facilitate a conversation with the principal between the team and the person who is violating the norm.

After teams create their final list of norms and identify the process it will use when a team norm is violated, it is important that each team revisits its norms continually in order for them to impact how they work together. Boudett and Lockwood (2019) contend that “norms are
most useful once the group is far enough along in its work for the ‘honeymoon’ stage to have ended and disagreements to arise” (p. 16). If the team does not keep their norms alive, they will not be of use when they get to this point.

Boudett and Lockwood (2019) offer several suggestions to help teams keep their norms alive. Teams might display their norms on chart paper or print them on the agenda for each meeting. Teams might periodically use a norms check-in, which allows team members to rate themselves on how well they believe they are following each norm and to select one norm to focus on for the meeting or next several meetings. Another possible idea is for teams to utilize a plus/delta protocol at the end of each meeting. Team members identify what went well during the meeting (pluses) and what they can change next time to improve the team’s collaboration (deltas). This information is used in planning for the next meeting to honor what is working well and to make necessary adjustments to address the areas of improvement.

To support PLCs with implementation of this action step, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix C: Annual Work of a PLC.

Establish Team SMART Goal

According to DuFour and Marzano (2011) for a group to truly function as a team, members must work interdependently to achieve common goals for which all members are mutually accountable. This begins with each team establishing a SMART goal that specifically calls for evidence of improved learning for all the students they serve. Schoolwide goals alone will not impact student achievement. Teachers must translate the broader goals of the school and/or district into specific goals for their grade-level or course content teams (McDougall, Saunders, & Goldenburg, 2007). To help provide greater clarity, the SMART acronym can assist teams in establishing appropriate goals. A SMART goal is (Conzemius & O’Neil, 2013):

- **Strategic and specific**: Team’s goal is aligned with the goals of the school or district.
- **Measurable**: The goal includes quantifiable terms.
- **Attainable**: The team believes the goal is achievable.
- **Results-oriented**: The goal requires evidence of improved student learning.
- **Time bound**: The goal will be accomplished within a specific period of time.

The purpose of the goal is to assist teams in analyzing their practice, monitoring evidence of student learning and adjusting their practice to improve student performance. If teams do not establish clear, achievable goals, they may have a false sense that all is well and fail to improve both their practice and student learning. The team SMART goal is at the heart of their work and
helps to move team members from good intentions to results and from the abstract to actionable steps (Garcia, et al., 2015). Every member of the team must be clear on the goal, how he/she can contribute to achieving the goal and the specific evidence the team will gather to monitor progress towards the goal (DuFour & Marzano, 2011).

It is important that SMART goals are established by each team and not for the teams. It should be based on past student achievement, which serves as the benchmark for improving student learning, and include the improvement goal for the indicator being monitored (DuFour, et al., 2016). The following are examples of team SMART goals adapted from Learning by Doing (DuFour, et al., 2016):

- **Example 1:**
  - **Current Reality:** Last year, 76% of the first grade students scored at proficiency/advanced levels in mathematics as measured by the district’s end-of-year assessment.
  - **Team SMART Goal:** By the end of this school year, at least 81% of the first-grade students will score at the proficiency/advanced levels in mathematics as measured by the district’s end-of-year assessment.

- **Example 2:**
  - **Current Reality:** Last year, 68% of the freshman English students earned a final grade of C or better.
  - **Team SMART Goal:** By the end of this school year, at least 75% of the freshman English students will earn a final grade of C or better.

- **Example 3:**
  - **Current reality:** Last year, 35% of students in our school enrolled in at least one advanced placement (AP) course. 73% of those students scored 3, 4, or 5 (passing scores) on the end-of-course national AP exam.
  - **Team SMART Goal:** This year, 48% of the students in our school will enroll in at least one AP course. At least 75% of those students will score 3, 4, or 5 (passing scores) on the end-of-course national AP exam.

Dufour, et al. (2016) recommends that collaborative teams establish annual SMART goals that are attainable but also include short-term goals that can serve as benchmarks to measure progress along the way. Teams need to feel reasonably confident that through their collective actions they have the capacity to reach their goals. By setting smaller goals for each unit, teams can measure incremental progress and make adjustments as needed along the way to reaching the team’s overall goal. These short-term goals also serve as opportunities for frequent feedback, intermittent reinforcement and sources of celebration to build and sustain the team’s motivation, as well as their individual and collective efficacy.
To support PLCs with implementation of this action step, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix C: Annual Work of a PLC.

Addressing Question # 1: What do we expect our students to learn?

One of the most critical factors that impacts student success is access to a guaranteed and viable curriculum. Marzano (2003) states that the work of translating the standards into a guaranteed, viable curriculum at the local level is the single most important initiative a school or district can engage in to raise student achievement. For the curriculum to be **guaranteed**, it must ensure that specific content is taught in specific courses and at specific grade levels, regardless of the teacher assigned to the student. To be **viable**, schools and districts must ensure enough instructional time is available to actually teach the essential knowledge, skills and/or concepts in each unit of instruction.

Simply creating and distributing a copy of the school or district curriculum aligned to the *Kentucky Academic Standards* (KAS) does not guarantee students have access to the same knowledge and skills. Often gaps exist between the school or district-established curriculum and what is actually implemented by teachers in classrooms. If a school is committed to ensuring all students learn at high levels, then it must have a process in place in which teachers work collaboratively to respond to the question of “Learn what?” According to DuFour, DuFour, and Eaker (2008) “schools are more effective when the teachers within them have worked together to establish a clear and consistent understanding of what students must learn’ (p. 186). DuFour, et al. (2016) stresses that the “entire PLC process is predicated on a deep understanding on the part of all educators of what all students must know and be able to do as a result of every unit of instruction” (p. 113).

Providing students access to a guaranteed and viable curriculum does not take away from an individual teacher’s autonomy. Dufour, et al. (2016) states that implementing a guaranteed and viable curriculum “does not mean that teachers must adhere to lockstep pacing by which all members are teaching from the same page on the same day. It does not mean that all teachers must use the same instructional strategies or same materials” (p. 113). However, it does mean that during the designated time frame established by the team for presenting a given unit, each team member will work to ensure every student acquires the essential learning outcomes for that unit. Clarifying the essential knowledge, skills and/or concepts allows teachers to establish the **what** of the curriculum, but each teacher is still responsible for determining **how** to most effectively present the content to his/her students (Mattos, et al., 2016).
The following list provides possible action steps teachers can use as they engage in collective inquiry to address the first question of a PLC for each unit of instruction:

1. Collectively study the standards using the KAS documents, local curriculum documents and other supporting internal and external resources.
2. Clarify and reach consensus on the essential knowledge, skills, and/or concepts necessary for students to reach the intended depth of the grade-level standards for that unit.
3. Determine a learning progression that leads students to what they are expected to know and be able to do.
4. Determine what proficiency looks like for each essential learning outcome.
5. Establish common pacing guides and agreed-upon assessment schedules.
6. Commit to one another to actually teach the agreed-upon curriculum.

Identify Essential Learning Outcomes
As teachers work collaboratively to prepare for each unit of instruction, they must start with identifying the essential learning outcomes. If teachers are not clear on what students should know and be able to do and how it will be measured, it is not likely their students will learn. As stated by Fisher, et al. (2020), all students need to learn at high levels, “not by chance but by design” (p. 32). This requires moving beyond just looking at pacing guides and curriculum maps to members of a collaborative team spending time learning together to gain clarity around the standards and to make decisions about the learning pathway for each unit of instruction.

Responding to the question of what students need to know and be able to do requires the team to analyze the KAS standards, local curriculum documents and other supporting resources as they engage in professional dialogue about the specific knowledge, skills and/or concepts required to meet the intended depth of the standards. It is important to note that the KAS documents were written by teachers with an intentional focus on providing support to teachers in understanding the grade-level expectations, whether this is through mini-progressions, coherence statements, multidimensionality or complete K-12 progressions. In addition, the Breaking Down a Standard Protocols walks teachers through a process that guides the collaborative team in utilizing the different components within the KAS documents to gain greater clarity of their grade-level or course standards.

Discussion and analysis of the standards prior to beginning a unit of instruction ensures all team members have common expectations for learning aligned to the appropriate depth for all students. It helps to create a clear path forward that allows teachers to stay focused on what students need to know, understand, and be able to do to meet the grade-level expectations and to avoid potential distractions or digressions of what is just nice to know and be able to do. As
teams consistently work together, unit by unit, to review and discuss the standards and local curriculum documents, it helps to build both the individual and collective efficacy of the team (Fisher, et al., 2020).

**Determine a Learning Progression**

Once the team has determined what specific knowledge, skills and/or concepts are required for students to meet the grade-level expectations within the unit of study, the next step is to determine the appropriate learning progression necessary to help students reach those expectations. DuFour and Marzano (2011) define learning progressions as “attempts to organize the academic content into a progression of increasingly more complex and generalizable knowledge” (p. 111). This requires the team to consider the subskills or knowledge required to access the skills and concepts within the standard as a whole. Fisher, et al. (2020) offers the following questions teams can use to create a possible learning progression (p. 39):

- What prior knowledge is necessary for learners to successfully engage in this learning?
- What skills and concepts did students need to master in prior standards?
- What learning experiences must they have to successfully build their prior learning and background knowledge?
- What key vocabulary is explicit or implicit within the verbiage of the standard or curriculum expectations?
- What scaffolding is necessary for all learners to successfully engage in this learning?
- What do we know about students that can make these learning experiences more meaningful?

Once created, the learning progression is used to guide the team as they develop the learning intentions and success criteria for each lesson or series of lessons within the unit of instruction. It also serves as a diagnostic roadmap they can use to identify where potential learning gaps exist when students struggle. Additionally, the collaborative team can use their understanding of the learning progression to consider areas that may need to be explored and addressed in subsequent meetings. It also allows the team to identify areas that may require additional support to build member’s individual and collective efficacy which allows for true job-embedded professional learning (Fisher, et al., 2020).

**Determine Proficiency**

When team members have gained clarity regarding the essential knowledge, concepts and/or skills required for students to meet the grade-level expectations, the next challenge is to determine what represents proficiency. Teachers need to think through the question of “What
would this standard, if mastered, look like in terms of student work?” What evidence must students produce to demonstrate they have met each essential learning outcome? The team will use this shared understanding of what proficiency as they work together to address the second question of a PLC, “How will we know if they are learning?”

Establish Pacing Guide
In order for teachers to determine if all students are reaching proficiency on the essential learning outcomes for each unit and to provide the necessary supports and enrichments, the team needs to establish a common pacing guide and assessment schedule. Having a common pacing guide in no way means that teachers must teach the exact topic in the same way each day, but it does establish an overall timeline for a unit of instruction. It also includes the agreed-upon dates the team will administer common formative assessments and the unit summative assessment, as well as time for the team to respond to the results from each common formative assessment. The day-to-day pacing may vary from teacher to teacher, but the entire team knows that on certain dates during the unit, instruction stops and the entire team administers its common assessments. Mattos, et al. (2016) stresses that “without common pacing, it is impossible for a team to provide students with equal access to a guaranteed and viable curriculum” (p. 105).

The work of creating a guaranteed and viable curriculum is a never-ending process. DuFour (2015) recommends that teacher teams should review and revise each unit’s essential learning outcomes every year. This allows teams to review their curriculum and make adjustments based on the needs of their students and the professional learning of the team as they work to improve their individual and collective practice based on student results. In addition, it provides new teachers with an opportunity to participate in the collective inquiry process to better understand the standards and the essential learning outcomes for students and to create a sense of ownership of the grade-level or course curriculum.

For more information on developing learning goals and success criteria, please reference the Balanced Assessment Section of the Model Curriculum Framework.

To support PLCs with implementation of this action step, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix C: Recurring Work of a PLC.

Addressing Question # 2: How will we know if students are learning?
If a school and/or district is truly committed to ensuring all students learn at high levels, it must have a systematic process in place to gather evidence of each student’s learning on an ongoing
basis. The second question of a PLC, “How will we know if they are learning?” calls on collaborative teams to develop common formative assessments in order to monitor the learning of each student, skill by skill, on a frequent and timely basis (Eaker & Keating, 2015). After teams have clarified the intended learning outcomes for an instructional unit, they work together to create common formative assessments aligned to measuring those outcomes and establish the criteria they will use to assess the quality of student work (DuFour & Fullan, 2013).

Mattos, et al. (2016) argues that the second question serves as the linchpin of the PLC process. In order to answer this question, a team must agree on what students must know and be able to do. Then, once the assessment is given, the team is then able to respond to the third and fourth questions of a PLC of “How will we respond to students who have not learned?” and “How will we enrich and extend for those who are already proficient?” So, the driving questions of a PLC flow up and down from this critical second question.

Collaborative teams use team-created common formative assessments to ensure all students who are in the same curriculum and are expected to acquire the same knowledge, concepts, and/or skills are assessed using the same instrument or process, at the same time or within a very narrow window of time. The team then uses the evidence of student learning gathered from their common formative assessment to inform their individual and collective practice in four ways (DuFour, et al., 2016, p. 136):

- To inform each teacher of individual students who need intervention because they are struggling to learn or who need enrichment because they are already proficient;
- To inform students of the next steps they must take in their learning;
- To inform each member of the team of his/her individual strengths and weaknesses in teaching particular skills so each member can provide or solicit help from colleagues on the team; and
- To inform the team of areas where many students are struggling so that the team can develop and implement better strategies for teaching those areas.

As part of a balanced assessment system, evidence of student learning is elicited in many ways and for a variety of purposes, from large scale district and state assessments to the day-to-day use of the formative assessment process. Common formative assessments are only one element of a balanced assessment system. The system also relies on individual teacher’s day-to-day assessments, unit summative assessments, interim district benchmark assessments and state and national assessments (DuFour, et al., 2016). The use of common formative assessments does not take away from teachers’ autonomy; individual teachers are still
empowered to use a variety of instructional strategies and administer their own quizzes and assignments to assess student understanding minute-by-minute, day-by-day while teaching a given unit in order to make decisions about where to go next in their daily instruction (Mattos, et al., 2016).

**Creating Common Assessments**

In order for educators to help students acquire the essential knowledge, concepts and/or skills, for the unit they must create assessments that provide information on each student’s proficiency on the intended learning outcomes in a timely manner. DuFour, et al. (2016) recommends that the first step be the same as the first step in every aspect of the PLC process - the team must spend time learning together. Collaborative teams must engage in collective inquiry regarding best practices in monitoring deeper learning of their students and apply those insights as they work to create common formative assessments and the end-of-unit assessment.

When creating common assessment aligned to the essential learning goals for the unit, the team may need to write some items for scratch or use aligned items from other sources, such as publishers' tests, released items from state or national assessments or past exams. The format of the assessment should reflect the essential learning the team is assessing and provide the most useful information about each student’s proficiency (Mattos, et al., 2016). What is critically important is that the level of rigor of the items used are aligned to the depth of the standards being assessed. When there is a disconnect between the intended learning outcome and the assessment question, the assessment is no longer valid. Ensuring that each learning goal clearly connects to specific items or key features within assessment items is a key alignment strategy (Bailey & Jakicic, 2017).

As teams work collaboratively to create their common assessments, they can use the following steps to help structure the work (Bailey & Jakicic, 2017):

1. Determine which essential learning goals from the unit to include on the assessment.
2. Discuss the cognitive demand associated with each learning goal.
3. Decide what type of assessment item to use and how many will be necessary to ensure reliability.
4. Match the rigor and the learning goal to the type of item that will best assess it.
5. Decide how many questions the student must get correct or what level of a rubric or other established criteria the student must achieve in order to be considered proficient.
6. Review the assessment plan to determine how much time the assessment will take.
The length of the assessment is dependent on its purpose and the number of learning goals being assessed. Mattos, et al. (2016) suggests creating common assessment that focus on smaller chunks will yield deeper understanding of the learning, help identify potential problems earlier and provide a more specific focus for interventions. In general, smaller, more frequent assessments over fewer learning goals are more likely to generate the most focused evidence of student learning.

All team members must review, discuss and agree that each item is clearly aligned to one of the learning goals being assessed in order for it to be used on the assessment. The process of teachers grappling with the type of evidence they need to gather to assess student learning is more important than the end product of the assessment itself (Mattos, et al., 2016). As the team engages in professional discourse on the type of evidence required to determine if students have reached the intended learning outcomes, it will also impact their understanding of the type of learning experiences students will need in order to reach the expectations and possible ways to scaffold and support their learning.

While common assessments provide teams with important information on student learning, they need to gather evidence from a variety of sources. Mattos, et al. (2016) cautions that “relying on any one type, method, model, or format of assessment would be a seriously flawed assessment strategy. Assessment of a student’s work should provide a rich array of information on his or her progress and achievement. The challenge is to match appropriate assessment strategies to curricular goals and instructional methodologies” (p. 104).

Analyzing the Results
After administering any common formative assessment and the end-of-unit assessment, teams need to meet in a timely manner to discuss, analyze and respond to their assessment data. As collaborative teams work to analyze the data, they must look at the results through both a student-focused lens and a teacher-focused lens (Garcia, et al., 2015). Analyzing the results through a teacher-focused lens requires the team to look critically at their instructional practices used in the teaching of the content and identify strengths and weaknesses. This discussion can assist teams as they plan for student intervention and enrichment and to make adjustments for future instruction. The following questions can support teams as they analyze their results through a teacher-focused lens (Garcia, et al., 2015, p. 61):

- **Teacher-Focused Considerations**
  - What instructional strategies appeared to work well?
  - What instructional strategy or practice failed to produce results for the whole group as well the subgroups?
o According to the data, what lesson or activity should the team reconsider?
o What questions need to be reviewed and changed on the assessment?

In terms of a student-focused lens, the team uses the results to identify students, skill-by-skill, who did not reach proficiency who require additional time and support, as well as students who were proficient and would benefit from extending and enriching their learning. The following questions can support teams as they analyze their results through a student-focused lens (Garcia, et al., 2015, p. 61):

- **Student-Focused Considerations**
  o How many students achieved a level well above proficiency, how many achieved a level just above proficiency, and how many did not achieve proficiency?
  o What knowledge, concept and/or skills appeared to be especially difficult?
  o What patterns emerged in terms of student performance by question difficulty?
  o What patterns emerged as far as subgroups?
  o How helpful do students find the assessment to be in providing feedback on their learning?

The one activity that often creates the greatest discomfort for a team is sharing the results of student learning from the common assessments with their colleagues. To avoid this discomfort, teams will often administer the common assessment but fail to be transparent when sharing the results. Conversations tend to stay surface level as the team only speaks in generalities about student learning, and they fail to use the results to examine the effectiveness of their instruction (Dufour, 2015).

DuFour (2015) argues that when the teams fail to use the results from their common assessments to improve their individual and collective practice, it circumvents the entire PLC process. He emphasizes that “this collective analysis and professional dialogue is the crux, the very essence, of the work. It brings student learning and instructional practice into the open. It is, in short, what real PLCs do. To fail to engage in this crucial element of the process is to fail to function as a PLC. If students are to learn at high levels, educators must assign a higher priority to improving student achievement than they do to preserving tradition or avoiding discomfort” (p.187).

The use of protocols is one way to build a team’s capacity to analyze evidence of student learning. Protocols provide a structure for the team’s conversation as they analyze the results of common assessments in a safe environment. They help ensure all voices are heard and prompt the team to examine success as well as failure. As the team repeatedly uses the protocol when examining evidence of student learning, it builds each member’s skill in the type
of professional dialogue necessary to improve learning for both students and adults (DuFour, 2015).

Each year, the collaborative team should revisit the results of their analysis from the previous year as they prepare to teach the same unit. They should examine areas where students experienced difficulty on the assessments, possible reasons why students struggled and any adjustments or corrections taken to improve their ability to teach those skills or concepts more effectively. The team would then set a short-term SMART goal for the unit focused on improving student achievement from the previous year. As teachers continuously use past evidence of student learning to improve student learning for the current year, it helps to drive the continuous improvement process of a PLC (DuFour, et al., 2016).

In their book, Learning by Doing, Dufour and colleagues (2016) argue that the benefits of using team-developed common assessments for formative purposes are so powerful that no teacher team should be allowed to opt out of creating them. They offer the following seven reasons (pp. 142-146):

- **Common assessments promote efficiency for teachers:** If all students are expected to demonstrate the same knowledge and skills regardless of the teacher to whom they are assigned, it only makes sense that teachers would work together to assess student learning. It is ineffective and inefficient for teachers to operate as subcontractors who are stationed in proximity to others yet work in isolation. Those who are called upon to complete the same task benefit by pooling their efforts.

- **Common assessments promote equity for all students:** When schools utilize common assessments, they are more likely to ensure that students have access to the same essential learning goals within each unit, use common pacing and assess the quality of student work according to the same criteria. Schools will continue to have difficulty helping all students achieve at high standards if the teachers within them cannot develop the capacity to define a standard with specificity and assess it consistently.

- **Common assessments represent a powerful strategy for determining whether the guaranteed curriculum is being taught and, more importantly, learned:** As teachers work together to study the elements of effective assessment and critique one another’s ideas for assessment, they improve their assessment literacy. Perhaps, most importantly, teachers’ active engagement in the development of the assessment leads them to accept greater responsibility for the results.

- **Common assessments inform the practice of individual teachers:** Common assessments provide teachers with a basis of comparison as they learn, skill by skill, how the performance of their students is similar to and different from the other students.
who took the same assessment. With this information, a teacher can seek assistance from teammates on areas of concern and can share strategies and ideas on skills in which his/her students excelled.

- **Common assessments build a team’s capacity to achieve its goals:** When collaborative teams of teachers have the opportunity to examine achievement indicators of all students in their course or grade level and track those indicators over time, they are able to identify and address problem areas in their curriculum. Their collective analysis can lead to adjustments to the curriculum, pacing, resources and instructional strategies designed to strengthen the academic program they offer.

- **Common assessments facilitate a systematic, collective response to students who are experiencing difficulty:** Common assessments help identify a group of students who need additional time and support to ensure their learning. Because the students are identified at the same time and because they need help with the same specific skills that have been addressed on the common assessment, the team and school are in a position to create timely, directive and systematic interventions.

- **Common formative assessments are one of the most powerful tools for changing the professional practice:** There are two powerful levers that can persuade teachers to change their practice. The first is concrete evidence of irrefutably better results. The other is the positive peer pressure and support that come with being a team member. When people work interdependently to achieve a common goal for which all members are mutually accountable, the performance of each individual directly impacts the ability of the team to achieve its goal.

To support PLCs with implementation of this action step, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix C: Recurring Work of a PLC.

**Addressing Question # 3: How will we respond when some students do not learn?**

How a school responds to the third question of a PLC, “How will we respond when some students do not learn?” is one of the key distinctions between those that have fully embraced the PLC process and those that are PLC-lite. If a school is to truly act on their belief of ensuring all students learn at high levels, it must create a systematic process to respond to students who experience difficulty in their learning.

As part of a multi-tiered system of supports (MTSS) framework, schools should create and implement a schoolwide system of interventions that provides targeted and timely support to struggling students. The success of an effective schoolwide system is built upon the idea that all teachers implement and all students receive high-quality Tier I instruction at the classroom
level. In general, at least 80-85% of students should meet proficiency of the essential learning goals though strong Tier 1 instruction. If this is not occurring in a school or within a specific collaborative team, then improvement efforts should focus on strengthening the quality of initial instruction at the classroom level. Fisher, et al. (2020) cautions that “bad instruction should not be covered up by having a majority of learners receiving a tiered system of support” (p. 166). Schools and/or district will never close the learning gap without an intentional focus on providing quality Tier 1 instruction along with the effective development and use of common formative assessments (Bailey & Jakicic, 2017).

However, even the most effective Tier 1 instruction will not meet the needs of all students. When teachers introduce a new essential learning goal, the team and the school must anticipate that some students will not achieve proficiency by the end of initial classroom instruction (Mattos, et al., 2016). it is impossible for a single teacher to meet the diverse needs of all his/her students. This is why it is crucial that a school creates a systematic intervention process that ensures all struggling students receive additional time and support in addition to what an individual classroom teacher can provide (DuFour, et al., 2016).

Dufour, et al. (2016) argues in order for a multi-tiered system of supports to be effective, every faculty member has a role in the schoolwide system of interventions. As teachers work in collaborative teams through the PLC process, they take primary responsibility for determining the essential knowledge, concepts, and/or skills for each unit of instruction, teaching the curriculum and monitoring student learning. As a result, they are in the best position to identify who needs additional time and support by student, by standard. Within each standard, the team further breaks this down as they identify by student, by skill.

In Taking Action: A Handbook for RTI at Work, Buffum, et al. (2018) stress that the best intervention is prevention. The authors define prevention as the interventions that occur as a part of Tier I instruction at the classroom level to help close student learning gaps. This requires teacher teams to proactively identify potential challenges students might encounter and to take steps to remove those barriers. In doing so, more students are likely to experience immediate success and fewer students will need additional support beyond the Tier 1 level. Possible criteria a team might consider in identifying barriers for students include gaps in prerequisite skills, predictable developmental needs, transitional needs, and previous struggles.

As collaborative teams analyze the results from their common formative assessments and end-of-unit assessments, part of the discussion should focus on a teacher- to- teacher comparison of which teacher(s) had the greatest success with each essential learning goal. Based on this comparison, teachers should then discuss which strategies and resources led to greater student
achievement. It is not about who is the best teacher, but rather a focus on what the evidence shows and how those results were obtained. Teams can then use this information to support student interventions by assigning students that struggled with specific learning goals to the teacher or teachers with the best results for that same goal. In addition, teams also should make note of these strategies and resources so the entire team can utilize them during that same unit the next time they teach it (Buffum, Mattos, & Malone, 2018).

One of the most common ways collaborative teams respond to results from common formative assessments at the Tier 1 level is to create differentiated groups based on common mistakes and misconceptions from the assessment and plan a specific lesson designed to address those issues. Whatever instructional response is used to provide the remediation, it must be different than what was used during the initial instruction. Teams can use the instructional strategies they identified as part of their data analysis that yielded the highest results on the common formative assessment (Bailey and Jakicic, 2017).

Other possible responses at the Tier 1 level include using manipulatives to make a concept more concrete, providing examples and nonexamples to help students more clearly see the concept, teaching specific scaffolding strategies like chunking text, and using graphic organizers (Bailey & Jakicic, 2017). When teams have assessed the essential learning goals through their common formative assessments and provided students additional support at the classroom level, teachers must reassess those students to ensure they are now proficient on the targeted learning goals. If they are not yet proficient, the students will be provided supplemental Tier 2 academic supports that target the specific learning goals (Bailey & Jakicic, 2017).

When teachers administer the end-of-unit assessment and analyze the results, they may find that some students have yet to reach proficiency on one or more essential learning outcomes for a given unit. In an effective RTI system, Tier 2 represents the targeted supplemental supports some students will receive to help them reach proficiency on the grade-level essential learning goals (Bailey & Jakicic, 2017). These supports are provided to students in addition to Tier 1 instruction, not in place of it. Once again, the interventions should be targeted by student, by standard. DuFour, et al. (2016) recommends that the school schedule dedicates a thirty-minute block of time at least twice a week for students to receive additional time and support to master the essential grade-level learning goals. This time is meant to be both flexible and fluid in which students should be able to move in and out of these interventions once they achieve mastery of the specific learning goals.

When designing supplemental Tier 2 academic interventions, Buffum, et al. (2018) offers the following six-step problem-solving process (pp. 164-166):
• **Identify concerns:** The teacher team uses the common end-of-unit assessment data to discuss team members’ concerns regarding some of the students that were not successful. The team looks for common patterns affecting all groups of students and digs down to discover what may be impacting individual students. It also discusses concerns about the assessment itself and whether it is constructed in such a way to yield valid and reliable information about the students.

• **Determine cause:** The teacher team should consider the various streams of formative assessment information it gathers during Tier 1 instruction, as well as the end-of-unit assessment results, in order to diagnose more specifically the causes leading some students not mastering the standards. Typically, this results in forming three to five different intervention groupings at a grade level or within a particular course. Each grouping reflects the different causes leading to student struggles.

• **Target desired outcome:** The teacher team now discusses exactly what desired outcomes each grouping of students must achieve as a result of the supplemental Tier 2 interventions. Rather than discussing what students have not been able to do, the team states exactly what it wants them to be able to do.

• **Design intervention steps:** Next, the teacher team brainstorms potential intervention strategies for each targeted group and shares any resources available with the staff assigned to a particular group. Many times, these strategies emerge as teacher team members compare their scores with one another. When one teacher records results that are significantly better than those of teammates, the teachers collectively inquire about how that teacher produced those results. What strategies, materials and techniques did he/she use?

• **Monitor progress:** The team now decides what tools to use to monitor the progress of students receiving the supplemental Tier 2 interventions. Often, the end-of-unit assessment questions provide much, if not all, of what teams need to know about whether a student has achieved mastery of a learning goal or goals underpinning the standard.

• **Assign lead responsibility:** The teacher team next discusses which staff members are most highly qualified to help which students. This important step should consider:
  - Which staff have special training in a particular area (for example, phonemic awareness)?
  - Which staff record stronger results on particular learning goals from the end-of-unit assessment when compared to other teachers on the team?
  - Which additional staff (administrators, counselors, instructional aides) might be trained and able to assist certain groups of students?
o How will additional staff providing interventions gain understanding of the standards assessed, the learning goals supporting the standards and the exact causes impacting student achievement?

When every teacher in a school has a strong Tier 1 system in place, the building will begin to see a decrease in the number of students requiring Tier 2 and Tier 3 supports. In order for this to happen, it is critical that collaborative teams fully embrace the PLC process, which starts with developing clarity on the essential learning outcomes and the way in which those outcomes will be measured through team-created common assessments (Garcia, et al., 2015). Addressing the first two questions of a PLC as a part of Tier 1 instruction helps teams to create the instructional focus and ongoing assessment process necessary to provide an effective response when students struggle (DuFour, 2015).

In addition, teams must use the result of those assessments to improve their individual and collective capacity in order to provide strong Tier 1 instruction for their students. They must engage in job-embedded professional learning to address areas where the team as a whole struggle to help students reach proficiency on one or more essential learning goals. Effective Tier 1 instruction requires all teachers to use evidence-based practices that have the greatest impact on student learning while also empowering teachers to bring their own style into their instruction. The key is to identify and leverage the right practices all students must receive regardless of the teacher they are assigned as a part of the guaranteed and viable curriculum (DuFour, 2015).

For more information about interventions and how they fit into the bigger picture of the Multi-Tiered System of Supports (MTSS) framework, please visit KDE’s MTSS site.

To support PLCs with implementation of this action step, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix C: Recurring Work of a PLC.

Addressing Question # 4: How will we extend learning for those that already know it?

Highly effective PLCs recognize that they are not just obligated to help all students master the essential learning outcomes; they are obligated to ensure all students learn at the highest levels. Collaborative teams must recognize that their students are each unique with differing sets of ability. Because of this, it is likely that every student will need both interventions and extensions at different points throughout the year. When responding to the fourth question of “How will we extend learning for students who already know it?” teachers often only think
about their academically gifted students. However, this question refers to any student who has achieved mastery on the current essential learning goals based on the results from their common assessments (Ferriter, 2020).

According to Dufour, et al. (2016), extension occurs when students are stretched beyond essential learning outcomes or levels of proficiency. As collaborative teams design and implement extension activities, they must ensure the activities provide students with meaningful learning experiences, not just more of the same or busywork. It involves students digging deeper into the current content. This might include (Buffum, et al., 2018):

- challenging students to look at specific concepts and ideas from different perspectives,
- apply skills to new situations or contexts,
- look for different approaches to solving a problem, or
- use the skills they have learned to create a product or new outcome.

It is easier for collaborative teams to address how they will extend learning for proficient students by spending time considering possible extension opportunities as they work through the first critical question of “What do we want our students to know and be able to do?” Knowing up front that some students might have already learned the standards or will learn them during initial instruction, teams should discuss and identify what they can do to extend learning prior to starting the unit in instruction (DuFour, et al., 2016). The following questions can assist collaborative teams as they plan student extensions:

- What standard(s) will be used in the extension?
- What type of extension will be most beneficial to the majority of students that have demonstrated proficiency?
- How will student learning be measured for this extension?
- Which team member will lead the extension?

In addition to embedding extension activities into Tier 1 instruction, the flexible time that is built into the master schedule for providing supplemental Tier 2 academic interventions can also be used to extend learning and support for students who have already learned the essential knowledge, concepts, and/or skills for the unit (DuFour, 2015).

Providing students with additional time and support should never come at the expense of the high-achieving students. Collaborative teams should not take learning and attention away from one group of students in order to assist another group of students. When schools create and implement a system in which all students receive additional time, support and extension it
in no way diminishes the attention for one group of students, but instead extends best practices to all students (Mattos, et al., 2016). In order for this to become a reality, schools and/or districts need to act on and live out the three big ideas of a PLC: (1) a focus on learning, (2) a collaborative culture and collective responsibility and (3) a results orientation.

To support PLCs with implementation of this action step, the KDE has created a supplemental resource toolkit that includes resources, templates, samples and other supporting documents. The resources are located in Appendix C: Recurring Work of a PLC.
Balanced Assessment

Comprehensive, Balanced System of Assessment

While understanding where our learners are and how they will know if they are successful is essential for teaching and learning, using a variety of assessment measures is not enough to ensure high-quality, reliable assessment practices. A comprehensive, balanced systems approach is needed. A comprehensive, balanced system of assessment serves a variety of purposes, uses multiple measures and meets the decision-making needs of all stakeholders from the classroom, building and district levels (Chappuis & Stiggins, 2017).

Assessment balance is best achieved at the local level because only local educational agencies (LEAs) have schools, classrooms, students and teachers. LEAs and school leaders are often tasked with:

1. Creating a comprehensive, balanced system of assessments aligned to common learning expectations;
2. Using assessment and the resulting evidence of student learning for their intended purposes; and
3. Creating conditions for effective assessment practices by ensuring that educators have the time and training they need to appropriately engage in and interpret the evidence students produce (p.4).

Educators who have been trained in and have the knowledge and skills needed for these effective practices are considered to be assessment literate or as possessing assessment literacy. Assessment literate teachers embed assessment results and formative assessment strategies into daily instruction to improve learning, utilize student evidence to make continual decisions about teaching and effectively communicate progress and grading practices to students. Simply stated, assessment literacy consists of an individual’s understanding of the fundamental assessment concepts and procedures deemed likely to influence educational decisions (Popham, 2010).

High-quality, effective assessments provide teachers and administrators with the evidence of achievement needed to make informed short and long-term decisions to improve student learning. When students are actively engaged in the assessment process, learners have a clearer picture of how to demonstrate learning, and teachers are held accountable for the responsive changes that need to occur in their classroom practices (Erkens, 2015).
Educators need to know how students in their classrooms learn best in order to select the appropriate assessments to match students’ needs. Without a clear picture of why students are engaged in any assessment and what the evidence of student learning will be used for, educators risk wasting resources, contributing to over-testing, and misusing and misinterpreting data about student learning. Students need a clear understanding of the learning goals behind the activities they are undertaking in classrooms. In a comprehensive, balanced system, assessments are carefully selected to align with the purpose behind the classroom learning experiences and intended learning goals (Wiliam, 2018).

While some assessments are designed to provide evidence that focuses on the big picture by offering program feedback or annual yearly progress for a school or district, other assessment tools and practices are intended to provide guidance about where to go next in teaching and learning in the classroom. Just as the assessments stakeholders use are varied, so are the decisions those stakeholders make (Chappuis & Stiggins, 2017).

Because different stakeholders need to make different kinds of educational decisions, there needs to be a variety of assessments that yield different types of evidence. There is no one-size-fits-all assessment. Assessments at all levels—from classroom to state—will work together in a system that is comprehensive, coherent and continuous. In a comprehensive, balanced system, there are four primary assessment purposes: formative, diagnostic, interim/benchmark and summative. These four assessment purposes provide a variety of evidence to support educational decision making (WestEd, 2020a).

Assessment Types and Grain Size

**Formative assessment** is first and foremost a process engaged in by students and teachers together. It happens during learning and is more than just eliciting evidence of student learning (like a quiz or an exit ticket); it requires noticing, recognizing and responding to the evidence of student learning in order to support progress toward learning standards or goals. The formative assessment process provides students and teachers with immediate feedback that can be used to adapt teaching and learning through the use of test-elicited evidence (Popham 2011). Because it immediately informs teaching and learning, formative assessment should make up most of a teacher’s instructional practices (Erkens, 2017) and may help surface a misconception that content needs to be clarified before moving on to the next step in learning. For an assessment to be deemed formative, teachers must be adjusting teaching and learning based on the evidence they collect from the assessment given (Erkens, 2012).

**Diagnostic assessment** is a formal strategy or tool designed to measure specific student strengths and weaknesses in student learning relative to their learning standards or goals.
Diagnostic assessments focus on individual students. While both the formative assessment process and diagnostic assessments are designed to help teachers more effectively support student learning, diagnostic assessments are not an ongoing process embedded in teaching and learning. Instead, they are specific measurement tools and strategies used when educators need more detailed information about individual students to inform next steps for instruction or intervention. Diagnostic assessment can be commercially developed products or teacher-created tools and strategies. Primary spelling inventories, sight word checklists, and written/oral assessments are a few examples of diagnostic assessment when used as tools to measure and inform next steps for individual students.

**Interim/Benchmark Assessment** monitors students’ academic progress towards longer-term goals and compares student understanding or performance against a set of learning standards or objectives. Interim or benchmark assessments may be administered at specified intervals over the course of an academic year and may be common across classes or schools. The purposes of interim or benchmark assessments are to assess curriculum, instructional strategies and pacing, monitor students’ academic progress toward longer-term goals, inform school improvement planning or predict a student’s end-of-year performance when well-aligned to common learning expectations. Common performance tasks and common formative assessments are often examples of interim assessments when teachers collectively and intentionally decide to use them at intervals throughout the year, such as at the end of specified units.

**Summative Assessment,** sometimes referred to as a culminating assessment or end-of-course assessment, typically comes at the end of a period of instruction to measure the outcome of student learning (Kibble, 2017). While formative assessments are assessments *for* learning, summative assessments are assessments *of* learning. State assessments, Advanced Placement (AP) or ACT/SAT exams often fall into the category of a summative assessment (Bailey & Jakicic, 2012). Summative assessment is used to monitor and evaluate student achievement at the group-level and inform program-level and school improvement planning. It is not intended to provide information that can inform ongoing teaching and learning of individual students, but rather it gives an overall picture of how a system is preparing students to meet the learning expectations (Erkens, 2012).

**Common formative assessments** are typically assessment tools created collaboratively by a team of teachers who teach the same content or grade level. Common formative assessments are given to all students at a set time in the curriculum to answer the question: How will we know if our students are learning? (Bailey & Jakicic, 2012). PLC teams develop these timely
grade-level or content-specific assessments to monitor each student’s learning. According to DuFour and Mattos (2016), common formative assessments are beneficial because they:

- Promote equity for students;
- Provide an effective strategy to determine if the guaranteed and viable curriculum is being taught and learned;
- Inform the practice of individual teachers;
- Promote teacher efficiency;
- Build a team’s capacity to improve its program;
- Offer a powerful tool for changing adult behavior and practices; and
- Facilitate a systematic, collective response to students who need acceleration.

Common formative assessments help to ensure **equity** because they are developed with agreed-upon learning goals so that students will learn the same goals no matter which teacher they have. In developing common formative assessments, teams also must arrive at consensus as they determine what proficiency will look like. Coming to consensus is necessary to guarantee equity for all students (Bailey & Jakicic, 2012).

PLC teams use evidence to provide common data about implementation of the guaranteed curriculum and to provide information to support changes in instruction and professional learning as well as to identify specific students who may need additional interventions and support. When teachers can conduct frequent checks for understanding and “catch” students who need acceleration along the way, there are fewer students who need additional time and support at the end of a learning experience, lesson or unit. For common formative assessment to be effective within a PLC, teams must collectively decide when those checks should occur. End of unit assessments help teams better evaluate curricular and intervention program effectiveness and assist teachers in determining the strategies and instructional approaches that work best for each unit. This allows teachers to provide interventions earlier and potentially save instructional time (Eaker & Keating, 2015). **When teachers collectively and intentionally decide to use common formative assessments at intervals throughout the year, such as at the end of specified units, they are considered an interim or benchmark assessment, not an example of formative assessment.**

Regardless of the assessment type, observable evidence of what students know and can do in relation to learning expectations should be central to all assessment practice and is foundational to a comprehensive balanced system of assessment. For a system to be balanced and comprehensive, a variety of assessment types must be present, and they must be **valid** and
**reliable.** Valid assessments measure what they are intended to measure; reliability pertains to how consistently an assessment measures what it intends to measure (Erkens, 2017).

Assessment types can be differentiated by several different factors including grain size (meaning the volume of learning expectations measured by the assessment), frequency and immediacy of actionable information (meaning how directly it can inform teaching and learning in the classroom). This table shows a comparison of the four different types of assessment just described.

Table 3.1: Four Assessment Types by Grain Size

<table>
<thead>
<tr>
<th>Assessment Type</th>
<th>Grain-Size</th>
<th>Frequency</th>
<th>Immediacy of Actionable Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formative</td>
<td>Small</td>
<td>Minute-by-minute, day-by-day</td>
<td>Immediately informs teaching and learning</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>Small</td>
<td>As needed</td>
<td>Immediately informs teaching and learning</td>
</tr>
<tr>
<td>Interim</td>
<td>Medium</td>
<td>Intervals throughout the year</td>
<td>Supports future planning</td>
</tr>
<tr>
<td>Summative</td>
<td>Large</td>
<td>End-of-learning periods, often the end of the year</td>
<td>Informs decisions at the programmatic level</td>
</tr>
</tbody>
</table>

**Diagnostic assessment** and the **formative assessment** process are both small grain-sizes, meaning they focus on a small group of learning expectations or standards, and they both provide information that can rapidly inform teaching and learning in the classroom. The key difference between them is that diagnostic assessment is a measurement tool designed to identify specific strengths and weaknesses in individual students. However, both formative and diagnostic assessments can provide information about specific students who could benefit from intervention groups or extended learning opportunities. **Interim assessment** usually focuses on a broader group of learning expectations, takes place at designated intervals throughout the year and is designed to inform future instructional planning. It informs a grade-level team about specific standards for which their students are still struggling and supports planning to reteach or bring in different high-quality instructional resources for that content. Finally, **summative assessments** are of the largest grain size as they measure students’ knowledge and skills on a collection of learning standards at the end of a learning period or year. Summative assessment informs school, district and state leaders about the effectiveness of various programs (i.e.
Evidence of Student Learning  No matter the type of assessment, observable evidence of what students know and can do in relation to the learning expectations are the basis for high quality assessment practice. Identifying appropriate evidence to demonstrate student progress towards learning expectations and interpreting that evidence appropriately to inform a response requires a deep knowledge of the standards and learning expectations being measured. When evidence of student learning is used to guide the development of assessment items and strategies and is used as the foundational rationale for why teachers are making intentional instructional decisions based on student performance, we increase the chances of developing valid and reliable high-quality assessment (WestEd, 2020a).

Figure 3.2: Evidence of Student Learning

At all stages of the assessment cycle, high-quality assessment relies on a solid understanding of learning expectations being assessed. This requires clarity about the standards and the learning progressions that students travel through to achieve mastery of the standards. With clearly articulated learning expectations as a guide, the cycle of assessment moves through the process of eliciting evidence of student learning, interpreting that evidence and, most importantly, taking action to improve teaching and learning based on that evidence (WestEd, 2020a). This ongoing cyclical process is illustrated in the assessment cycle graphic above.

There are a variety of types of assessment that provide different information to support different types of educational decision-making. But whether we focus on the formative assessment process, diagnostic, interim or summative assessment, each of these steps in the
cycle is relevant to ensure stakeholders have meaningful information about student learning, which is used to move student learning forward.

For any kind of high-quality assessment, educators must first know what it is that you are measuring and identify what constitutes achievement. To begin this process, it is crucial to have a clear and deep understanding of the specific expectations articulated in the standards, including clarity about the level of cognitive complexity intended within the skills in each of those standards.

**Figure 3.3: Process for Developing a Meaningful Assessment**

Arriving at a high-quality assessment also requires understanding the learning progressions that lead to the standards. A **learning progression** is the student learning pathway that leads toward the standards; it is not the same as the scope and sequence in curricular materials, but rather is about how students progress in their learning - their steps to get to their destination, so to speak. Being clear about where students are in the learning progression helps teachers collect meaningful evidence about how successful they are in their instruction and how successful students are in their understanding of that instruction. In the formative assessment process, this involves establishing learning goals (what students should know and be able to do by the end of the learning period) and success criteria (observable evidence that teachers and students will use to decide how students are progressing toward their learning goals).

**Formative Assessment Process**

The formative assessment **process** provides students and teachers with immediate feedback to inform teaching and learning (Erkens, 2017). *Merriam Webster’s Dictionary* defines the word **formative** as “capable of alteration by growth and development.” This suggests that formative assessment should shape instruction (Wiliam, 2018). The Council of Chief State School Officers (CCSSO) defines formative assessment as a planned, ongoing process used by all students and
teachers during learning and teaching to elicit and use evidence of student learning to improve student understanding of intended disciplinary learning outcomes and support students to become self-directed learners (CCSSO, 2020). While tests are used during the formative assessment process to provide evidence, it is important to note that the responsive adjustments that teachers and students make during the learning progression based on that evidence is what qualifies an assessment as formative (Popham, 2011).

In order to determine if students have mastered the knowledge, content and/or skills contained in the standards or not, the formative assessment process directs teachers to collect evidence. If the assessment-elicited evidence indicates that instruction is going well, both teachers and students continue to do what has been working. If the elicited evidence indicates that students are not progressing as intended, then the teacher makes immediate instructional changes and/or encourages students to adjust their own learning approaches (Popham, 2011).

When students can adjust based on the actionable feedback from others (through self-assessment, teacher and peer feedback) to improve their current level of work or understanding of a concept or principle, we describe those students as self-regulated or self-directed learners. Students who are self-regulated learners become “drivers” of their own learning and are able to independently manage evidence and feedback to continually move their learning forward (WestEd, 2020a).

Many misconceptions around formative assessment exist in education today. Educators from the late 1990’s often referred to formative assessment in terms of a tool or test (Wiliam, 2018); however, formative assessment is not:

- A particular kind of test, tool, product or strategy;
- A one-time event;
- Used to generate a grade or score;
- “Just good teaching”; or
- Something new.

Exit tickets are one of the most frequently cited examples of formative assessment; however, an exit ticket is a strategy that asks students to complete a specific task and hand it in before they leave class. It is important to remember that formative assessment is a process not the specific tool or strategy. So, in and of itself, an exit ticket is not considered formative assessment. For an exit ticket to be a true example of formative assessment it needs to involve analysis and feedback or a pedagogical response that engages students in their own learning. If a teacher asks students to complete an exit ticket for accountability but does not adjust
teaching and learning based on the evidence of student learning provided in the exit ticket, it is not formative assessment (WestEd, 2020a).

Why Formative Assessment is Needed

When the formative assessment process is implemented in an intentional and purposeful way, it can greatly impact student achievement because “we (as school and district leaders) are improving teacher quality by improving teacher practice (Wiliam, 2018).” According to Dylan Wiliam (2018), by focusing teachers’ attention on minute-by-minute and day-to-day formative assessment, we are likely to see the greatest impact on student outcomes (p. 27). Teachers who implement the formative assessment process of noticing, recognizing and responding to the evidence of student learning help students move towards established learning goals at an accelerated rate. When this process is a part of daily teaching and learning practice, formative assessment can help foster self-regulation and ownership as students become more active participants in the learning process (WestEd, 2020a).

In addition to promoting ownership and self-regulation, formative assessment gives students the feedback needed for possible next steps to help them reach their intended learning outcomes. When students receive feedback around how they are doing (where they are along a learning progression) and what their next steps need to be to reach the next level in their learning, they have a clear understanding of why the work they are doing is relevant and are more likely to be motivated to get there (Clarke & Hattie, 2019). The formative assessment process gives teachers the feedback they need to determine how effective their instruction was in helping students reach their learning goals by helping to identify students who might need additional instructional support or enrichment (Bailey & Jakicic, 2012).

Cycle of Formative Assessment

The assessment cycle is based on the idea that all assessment is about using evidence of student learning to determine what students know and can do in order to inform appropriate decisions about teaching and learning. This applies to all high-quality assessment, regardless of its type or purpose. Learning expectations are represented at the center of this cycle (see figure 3.2) because at all stages of the cycle, high-quality assessment relies on a solid understanding of learning expectations being measured and the evidence that will show students’ progress toward the learning expectations. This requires clarity about the standards and the learning progressions that students travel through to achieve the standards. With the clearly articulated learning expectations as a guide, the cycle of assessment moves through the process of eliciting evidence of student learning, interpreting that evidence and, most importantly, taking action to improve teaching and learning based on the evidence (WestEd 2020a). Figure 3.4 takes a closer
look at the cycle of assessment in the specific context of formative assessment. You will see that the practices identified in figure 3.2 are represented here as well as some additional components within each stage in the cycle.

Figure 3.4: Cycle of Formative Assessment

- **Learning Expectations**: Establishing learning goals and success criteria is an essential entry point for the formative assessment process. Learning goals, also known as learning intentions, outcomes, objectives, aims and targets (Almarode, et al., 2019), describe what students will learn in a learning period (as in a lesson or unit). Learning goals are not an agenda of tasks to complete or curriculum resources listed from a lesson or day (p.30), but rather they communicate to students a destination - where they are going in their learning journey (p.32).

  Success criteria describe the evidence students must produce to demonstrate that they have achieved the learning goals and are sometimes referred to as key competencies or evidence of learning (p. 39). Sections D and E that follow provide an in-depth look at eliciting and acting on evidence of learning. Students should have a strong understanding of what they are supposed to learn and how they will know and show when they are successful. As mentioned in the previous section, learning goals and success criteria should be aligned to the learning expectations or standards associated with the learning progressions (WestEd, 2020a).

- **Eliciting Evidence**: Learning goals and success criteria should guide the design of strategies to elicit evidence of student learning, often in a variety of ways over the
course of a learning period. This may include a wide range of tasks like populating a graphic organizer or using math manipulatives to represent students’ thinking, observation, discussion and questioning. Teachers should provide strategies, activities and tasks that make thinking visible and allow both the teacher and students to observe progress (Almarode, et al., 2019).

- **Interpreting Evidence**: To support teachers in taking real-time pedagogical action, it helps to anticipate common potential student responses in advance and, based on the learning progressions, have pedagogical actions aligned to these responses at the ready (WestEd, 2020a). By having a keen awareness of where students are along a learning progression and knowing the specific needs of individual learners in their classrooms, teachers can anticipate potential student responses based on patterns they have observed in previous lessons or units of instruction. Using student knowledge and pattern observations helps teachers in interpreting the evidence they’ve collected to provide meaningful feedback to students (Almarode, et al., 2019).

- **Acting on Evidence**: Formative assessment is ultimately about what comes next for students to move toward their learning goals. Students and teachers need to work together so that they all understand their next steps. The evidence elicited from the formative assessment process should feed-forward learning, meaning it should equip students to act on their own (Clarke & Hattie, 2019). Students and teachers need to know what to do with the evidence they have collected in order to respond appropriately and continuously propel learning forward (p. 5).

**Learning Goals and Success Criteria**

Learning goals and success criteria drive the formative assessment process by supporting both student and teacher understanding of what successful learning of the standards will look like. At the heart of quality assessment practices, there is an emphasis on where learners are heading and how they will know if they are successful (WestEd, 2020a). Learning goals and success criteria are the barometer that teachers and students can use to monitor how effective their efforts are in moving towards mastery of the student learning goals. As previously mentioned in CCSSO’s definition of formative assessment, the ultimate purpose is for students to understand disciplinary learning goals and become self-directed learners (WestEd, 2019). To achieve this effectively, CCSSO (2020) suggests that students and teachers integrate and embed the following **key formative practices** in a collaborative and respectful classroom environment:

- Clarifying learning goals and success criteria within a broader progression of learning;
- Eliciting and analyzing evidence of student thinking;
• Engaging in self-assessment and peer feedback;
• Providing actionable feedback; and
• Using evidence and feedback to move learning forward.

These key practices are not a list of teacher actions; instead, they are a list of actions students and teachers must engage in together. When students and teachers can both clearly articulate the learning goals and success criteria, students are more likely to become self-regulated learners and “drivers” of their own learning because they know their destination (learning goals) and the directions needed to get there (success criteria). While all of these formative practices are important, if we fail to clearly communicate the learning goals and success criteria to students at regular intervals throughout their broader progression of learning, we fail to help students answer the three foundational questions in the formative assessment process illustrated in figure 3.5 below:

• “Where am I going?”
• “Where am I now?”
• “Where to next?” (Wiliam, 2018)

Figure 3.5 Formative Assessment Cycle
Figure 3.5 identifies the specific practices that make up the formative assessment cycle and illustrates the practices that are grouped with each of the three critical questions. The practices in blue help teachers and students answer the question, “Where am I going?” by establishing what students should be learning and what it will look like when they have learned it. These three practices (breaking down a standard, determining learning goals and developing success criteria) form the foundation for the remaining two sections (Where Am I Now? and Where to Next?). Teacher and student decisions about what evidence to elicit, how to interpret that evidence and how to respond to that evidence all take place in the context of the established learning goals and success criteria.

The practices in purple answer the question, “Where am I now?” by eliciting evidence of student learning and making sense of that evidence. By interpreting learning evidence, students are able to determine where they are in relation to the learning goals. Finally, the practices in yellow answer the question, “Where to next?” In this stage of the formative assessment cycle, teachers and students act on evidence in order to move students toward their intended learning goals. As the graphic illustrates, the formative assessment process is a continuous cycle. It isn’t a test or event that gets checked off the list, but rather an ongoing process that guides both learning and teaching. As students meet their goals, they circle back around and move towards a new cycle of learning.

Figure 3.6 Starting with the Standards

The *Kentucky Academic Standards* reflect the disciplinary knowledge and skills that students must achieve by the end of each grade level or course. These standards guide teaching and learning but aren’t achieved in a single lesson. Instead, learning happens along a pathway or progression that leads toward mastery of the standards. *Learning goals* represent the lesson-sized learning that students progress through as they make progress toward the standards. Supporting students to achieve the standards over the course of the school year demands not only a deep familiarity with the standards but also clarity about the *sequence* of learning that
students will move through on their path to the end-of-year standards (WestEd, 2020a). It is the culmination of the achieved learning goals from multiple lessons that ultimately should lead to a mastery of the standards at the end of a course or grade level (See Figure 3.6).

Breaking Down the Standards

Establishing learning goals begins with clarity about grade-level academic standards and the progression of learning that leads to those standards. The process of breaking down a standard supports better understanding and the progression of learning within and between standards. When breaking down a standard, teachers should reflect and ask questions such as:

- What is the goal of the standard?
- How does the standard build from prior and support future learning?
- What disciplinary practices are students engaging in?

Reflecting on these questions helps teachers and leaders better understand the depth of the Kentucky Academic Standards and the learning goals best aligned to those standards. The Kentucky Department of Education has created educator resources for reading and writing, mathematics, social studies and science that build knowledge about the standards and help educators break down standards to support teaching and learning. To learn more about the Kentucky Academic Standards, consider reviewing the Getting to Know the KAS Modules or the Breaking Down a Standard Resources. These resources can support educators in considering the prior knowledge and progression of learning for each standard in order to guide instruction and formative assessment.

Why Clarity is Crucial

In his book, Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement, John Hattie (2009) identifies the practices and strategies in education having the greatest positive impact on student learning. His meta-analyses ranked the practices and strategies according to how powerful they were in eliciting change and were given a numerical value termed an effect size. Any effect size greater than 0.40 is considered to have a positive impact (effect) on student learning, while any effect size less than 0.40 is considered to have a lower or negative impact on student learning. Hattie’s findings identified teacher clarity as having an effect size of 0.75, which suggests that, when implemented effectively, clarity around student learning goals and success criteria has the potential to almost double student learning growth. This research reinforces how important it is for teachers to know their standards and where students are along the pathway to reaching those standards. Having this increased level of
clarity allows teachers to provide more relevant and explicit feedback to help accelerate student learning (Hattie, 2009).

Researcher Frank Fendick (1990) suggests that teacher clarity is more than just learning goals and success criteria. Fendick describes four practices that combine to create clarity:

- **Clarity of Organization**: Assignments, activities or lesson tasks aligned to learning goals and success criteria;
- **Clarity of Explanation**: A student’s ability to understand relevant and accurate content information;
- **Clarity of Examples and Guided Practice**: Using explanatory and demonstrative lesson information to gradually move students to independence with less-scaffolded support; and
- **Clarity of Assessment of Student Learning**: Teachers eliciting and acting upon the regular feedback they receive from students (verbal and written).

While we have discussed how learning goals and success criteria (Clarity of Organization) are foundational to the formative assessment cycle (see figure 3.5), teachers also need to practice Clarity of Assessment in order to collect meaningful evidence from students to offer meaningful feedback to students about next steps in their learning. This section will focus most heavily on Clarity of Organization and Clarity of Assessment of Student Learning, although all support one another within the formative assessment cycle (Fisher, Frey & Hattie, 2020).

Determining Learning Goals and Developing Success Criteria

As mentioned earlier, establishing learning goals and success criteria is an essential entry point for the formative assessment process. Learning goals, also known as learning intentions, outcomes, objectives, aims and targets (Almarode, et al., 2019) describe what students will learn in a learning period (as in a lesson or series of lessons). In their research around the formative assessment process, authors Kim Bailey and Chris Jakicic emphasize the need to establish a clear connection between the learning goals and success criteria, the instruction that is taking place and the assessments that teachers implement (Bailey & Jakicic, 2012). Establishing this clear connection gives self-directed learners the increased clarity they need to understand what they are learning and how to get there (WestEd, 2020a).

Learning goals and success criteria work in tandem to help students understand where they are headed, helping them to eventually become self-regulated learners. If a lesson (or series of lessons) is a journey that students and teachers take together, learning goals represent to students the destination of their journey, signaling clearly what they are learning and why it is
important. Success criteria demonstrate to students what it looks like to be successful in achieving the learning goals; success criteria inform both teachers and students and represent the checkpoints along the route. When aligned to student learning goals, success criteria give students specific information to understand their progress and adjust to move their learning forward through observable demonstrations. These observable demonstrations are what Frank Fendick refers to as Clarity of Examples and Guided Practice in his four practices that create clarity mentioned previously in this section (Fisher, et al., 2020).

Learning goals clearly articulate to students the most important learning in a lesson, not the activities or experiences they will have in the lesson. While learning goals should be aligned to the standards, they do not need to reflect all the learning encompassed in the standard. Instead, learning goals should build towards the learning necessary to achieve mastery of the grade-level standard by the end of the course or year. In order to make learning goals achievable for students within the context of a lesson, they should be written in language that is accessible and comprehensible for students (Clarity of Explanation). Learning goals should be a guide both for teaching and for learning. To create meaningful learning goals that support student learning throughout the lesson and guide the formative assessment process, WestEd (2020a) suggests keeping in mind the following key criteria when developing learning goals:

- **Aligned**: The learning goals should align to the standards and build toward the content and cognitive complexity of the standard.
- **Achievable**: Learning goals should be achievable during the lesson. They do not need to reflect the entirety of the learning reflected in the standard(s).
- **Accessible Language**: Learning goals must be written in student-friendly language, clear enough for students to use to guide their own learning and make sense of them.
- **Focused on Student Learning**: Learning goals should focus on what students will learn, not on what they will do in the lesson. They should not be just a restatement of the lesson topic.
  - Learning goals are lesson-sized, not isolated or discrete. The learning they describe is aligned to a standard and connected to other prior, concurrent and future learning.
- **Worth Learning**: Learning goals should focus on the most important learning of the lesson and students should be able to understand and articulate why they are focusing on this learning.
  - Learning goals are part of an extensive progression of learning that builds from learning goals through the progression of learning and to the standards.
An example of a learning goal aligned to a Kentucky Reading and Writing standard that is potentially attainable during a lesson could be:

<table>
<thead>
<tr>
<th>Grade Level/Content Area</th>
<th>Standard</th>
<th>Learning Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Grade</td>
<td>RL.1.3: Describe characters, settings and major events in a story, using key details in order to make meaning of the story development.</td>
<td>Notice and talk about the setting, characters and big events in the stories we read.</td>
</tr>
<tr>
<td>Reading &amp; Writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interdisciplinary Literacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice 5: Collaborate with others to create meaning.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Aligned to the Standards**: You can see that this learning goal is aligned to the standards, but it doesn’t reflect the entire content standard. In this lesson, students are working on identifying characters, setting and major events and beginning to talk about it with their peers. As students progress in their learning, their learning goals will likely expand to incorporate telling or giving an account of the characters, settings and major events in verbal and/or written form and using these elements to make meaning of the story development. This lesson also aligns to Interdisciplinary Literacy Practice 5: Collaborate with others to create meaning.

- **Achievable**: While we don’t know how long this lesson is, it seems reasonable to imagine that this learning goal could be accomplished by first graders during a lesson.

- **Accessible Language**: Presuming that students have been introduced to the content in the standard (setting, characters and events), this learning goal is written in a way that allows a first grader to understand what they are working to learn.

- **Focused on Student Learning**: Students will likely undertake a variety of literacy activities in this lesson, perhaps including tasks focused on decoding and sentence-level reading comprehension, but this learning goal signals to students the most important learning in the lesson (to notice these key elements in their story and be able to talk about them) and provides tools so that they begin to develop the skills to manage their own learning.

- **Worth Learning**: This learning goal tells students that being a reader means noticing what is going on in a story and communicating with others about the reading.

As illustrated in Figure 3.5, success criteria in tandem with learning goals answer the question, “Where am I going?” because they are aligned tightly with one another and, therefore, the standards. Like learning goals, success criteria are a guide for both teachers and students. Success criteria are not checklists, activities in a lesson or a set of procedural expectations; they should reflect the expected learning of the lesson. Learning goals might be "invisible" because
they often happen inside a student's head; one cannot directly observe things like "knowing" or "understanding." Because of this, success criteria should always be written as performances of learning that one can observe. It is what students will say, do, make or write that will make the status of their learning visible (WestEd, 2020a). Accessible learning goals and success criteria enable students to participate in and contribute to the learning community by evaluating their own and their peers’ learning. When students internalize learning goals and success criteria, it helps them make meaning of challenging content and enables students to see the relevance in what they are learning. WestEd provides some key considerations for developing meaningful success criteria. According to WestEd success criteria should be:

- **Aligned to the Learning Goals:** Success criteria articulate for students how they will show that they are meeting their learning goals, so it follows that success criteria must be tightly aligned to the learning goals so they truly reflect demonstration of that learning.
- **Observable:** Success criteria must be visible to both teachers and students.
- **Accessible Language:** Like learning goals, success criteria are critical tools for students to manage their own learning, so the success criteria must be communicated clearly to students so they understand how they will show what they have learned.
- **Focused on Student Learning:** Success criteria should focus on what it will look like for students to show their learning and should not reflect the activities in the lesson or some of the procedural aspects of a task (i.e., completing a worksheet).
- **Demonstrable:** Finally, success criteria should be something students can accomplish and demonstrate within the course of the lesson so that they can actively monitor their progress toward the learning goals.

An example of first grade success criteria for Reading and Writing aligned to the learning goal/standard:

<table>
<thead>
<tr>
<th>Standard</th>
<th>Learning Goals</th>
<th>Success Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL.1.3: Describe characters, settings and major events in a story, using key details in order to make meaning of the story development.</td>
<td>Notice and talk about the setting, characters and big events in the stories we read.</td>
<td>I can use a five-finger retell to tell my reading buddy about my book. I can listen to my reading buddy and ask questions to learn more about their book.</td>
</tr>
</tbody>
</table>
• **Aligned to the Learning Goals:** These success criteria are aligned to the learning goal, providing students a structured way to share what they notice about the key elements of their story.

• **Observable:** These success criteria are observable both to students, their peers and their teacher. They make students’ thinking public.

• **Accessible Language:** If students are familiar with or provided clear instruction about what the five-finger retell strategy is and perhaps have access to an anchor chart to remind them, these success criteria could be a clear guide for a first-grade student.

• **Focused on Student Learning:** These success criteria direct students to the most important learning in this lesson, not to everything they will do in the lesson.

• **Demonstrable:** It is reasonable to imagine that a lesson could afford students the opportunity to demonstrate their learning through these success criteria.

**Engaging Students in Learning Goals and Success Criteria**

Students should be at the center of classroom interactions and decisions if our assessment practices are truly focused on learning. By asking students to engage in activities that directly relate to the learning goals and success criteria, students feel respected by their teachers and see the school experience as purposeful and coherent (Erkens & Schimmer, 2017). Furthermore, for teachers to engage students in the learning goals and success criteria, it is imperative that teachers find **clarity** in the standards for themselves in order to translate those standards into clear learning goals for students. If teachers are unclear about what students must know and be able to do, students will also be unclear and unable to own their learning (Almarode, et al., 2019). Figure 3.6 below illustrates the crucial role that clarity plays in engaging students in the creation of learning goals and success criteria.

**Student investment** (or ownership) is the degree to which students invest in their own learning. When students are invested in their own learning, they are more engaged and motivated and, therefore, more apt to reach their learning goals. Invested students see the relevance in what they are learning and understand why they are learning it because they have teachers who are intentionally and consistently making learning goals and learning progressions transparent for them. According to Cassandra Erkens and Tom Schimmer (2017), highly effective teachers who seek to promote student investment incorporate high levels of engagement and reflection by:

• Asking thought-provoking questions;
• Affirming student understandings and confidence;
• Clearing up misconceptions;
• Monitoring the impact of assessments and instructional practices; and
Continually seeking feedback from students regarding the classroom culture, assessments and practices to make responsive adjustments to those as needed.

Because the formative assessment process requires active engagement by students in their own learning, learning goals and success criteria cannot support active engagement if students do not fully understand them. Teachers can actively engage students in the learning goals and success criteria by making connections to previous learning experiences, building understanding through examples, and empowering students to reflect on their progress using learning goals and success criteria throughout lessons. Success criteria can be made more meaningful by examining examples with students. By unpacking examples that fully meet the success criteria (as well as those that do not) and emphasizing the next steps that could improve the example to fully meet the success criteria, teachers are able to make the success criteria concrete for students and model how students can use the evidence of their learning to propel learning forward (WestEd, 2020a). Through this process teachers can develop success criteria with students, known as co-constructing, to ensure clarity and encourage the kind of metacognitive thinking that can allow students to become self-directed learners.

Figure 3.6: Importance of Clarity

*Adapted from content in Clarity for Learning (Almarode, et al., 2019).
Co-Constructing Success Criteria

In her book, *Clarity for Learning*, Shirley Clarke (2019) claims that “The worst learning scenario is to be unaware of expectations or how your work will be judged and to have no guidelines about how to achieve the objective in the first place.” (p. 70). This ambiguity in expectations and next steps is diminished when teachers take the time to co-construct success criteria with students. While some educators argue they don’t have time to co-construct success criteria with students, doing so often reduces the amount of time overall teachers spend reviewing and reteaching content later to students (Almarode, et al., 2019).

Co-constructing increases the likelihood that students will become self-regulated learners because the process helps students internalize what they are learning and provides students with the tools necessary to monitor their own progress during a lesson (Gerzon, 2020). When students know the intended goal or standard that they are aiming for in a lesson, they are better able to compare their actual level of performance against the intended performance level that has been shared. Intended performance levels can be clearly articulated through modeling, worked examples and exemplars.

- **Modeling** involves explicitly demonstrating to students what the expectation looks and sounds like, typically through a process, so students know what they are expected to later do. Chefs often model how to complete a recipe, while a writer may model how to write an introductory paragraph. When we model, we are providing the information necessary for the learner to replicate or imitate our process to arrive at the same or a similar result (Almarode, et al., 2019).

- **Worked examples** are often shared so students know how to solve a problem or perform a task. They can be shared as a fully completed problem or worked examples that show progress over time. Progress over time worked examples are often used to illustrate steps in a progression (i.e., a writing process or mathematical equation) or to share a person’s thought process.

- **Exemplars** are high-quality examples that show students what their work can look like if they meet or exceed the success criteria. Exemplars are helpful when teachers want to challenge students to reach higher levels of performance and can act as springboards for discussions around specific criteria that make the examples high-quality. Using a variety of the examples above demonstrates to students that there are multiple pathways they can take as learners to meet or exceed the success criteria; it keeps learning interesting and engagement high (p. 83).

While there is no set right or wrong way to co-construct success criteria with students, any experience that clarifies learning goals and success criteria with students will have a positive
impact on their learning. Once teachers have a clear understanding of the standards, have developed the learning goals and success criteria, and have determined the examples, models and exemplars they will use, they are then ready to begin co-constructing success criteria with students (p. 81). In their book *Clarity for Learning*, authors John Almarode and Kara Vandas suggest the following steps as a general framework for co-constructing success criteria with students.

**Steps to Co-Constructing Success Criteria**

1. Decide *when* you will co-construct success criteria with students.
2. Collect the models, worked examples and exemplars you will use, such as:
   - Attainment of the learning goal(s)/standard examples;
   - Exceeding the learning goal (exemplars) examples;
   - Works in progress or non-examples; or
   - Processes, steps or various approaches to attain the same criteria.
3. Determine your approach for sharing criteria with students. This could include:
   - Teacher or student modeling demonstration with a think-aloud;
   - Modeling worked examples and posting for later reference;
   - Studying and analyzing multiple exemplars in small groups to develop success criteria; or
   - Determining which exemplars and examples are better through a comparison between lower-quality examples and nonexamples.
4. Begin generating success criteria with students. Make sure that:
   - After sharing modeling, worked examples and exemplars, teachers allow students to share their criteria; and
   - Based on the knowledge of the standards and expectations, the teacher adds any missing success criteria he/she may notice.
5. Sort and organize success criteria into categories to create a(n):
   - Checklist;
   - T-Chart;
   - Rubric (including meets/exceeds learning expectations portions of rubric); and
   - Additional method for representing the criteria.
6. Model/practice using the criteria to provide feedback and set personal goals. Which criteria should be worked toward next?
7. As learning deepens, revise success criteria and student goals over time.

**Strategies to Co-Construct Success Criteria**

In the *Steps to Co-Constructing Success Criteria* listed above, step 3 encourages teachers to determine their approach for sharing criteria with students. The following strategies from
Nancy Gerzon (2020) provide teachers with several suggested strategies they could use to approach demonstrating success criteria to students:

- **Demonstrating a Skill:** The teacher demonstrates a specific skill and asks students, “What did I just do?” as a way of gathering the criteria.
- **Demonstrating Good and Bad:** The teacher demonstrates how to do the skill well and how to do it poorly and asks students to identify key features of a successful performance.
- **Working Through It:** Teacher engages students in the analysis of a graph, diagram or text and discusses the specific steps to interpret it.
- **Sloppy Success Criteria:** Teacher provides students with an example that contains errors, along with the success criteria, and asks them what has gone wrong. Students analyze the errors and correct the success criteria (WestEd, 2020a).

**A Word on Goal Setting with Students**

Once students have a better understanding of what success looks and feels like through the co-construction process, they will be empowered to more accurately self-assess their own learning progress and achievement. Steps 6 and 7 above set the stage for students to begin to set goals and determine their next steps based on the success criteria. When using a pre-assessment or other formative evidence of student learning, paired with the co-construction process, students can be asked which success criteria they have successfully met and which they need to work towards next. By establishing regular reflective conversations or structures in their classrooms, teachers enable students to visibly see the progress they are making towards accomplishing all the success criteria (Almarode, et al., 2019). Seeing their successful progress builds students’ self-efficacy and sets them up for moving along an upward trajectory of learning (Hattie, et al., 2016).

**Eliciting Evidence of Student Learning**

As emphasized previously in this framework, understanding where learners are heading and how they will know if they are successful is essential for teaching and learning. Once students and teachers understand where they are headed in their learning, their focus then shifts to the second question, “Where am I now?” as illustrated in Figure 3.7.
Students and teachers should understand their current status so that they can make decisions to move learning forward (Chappuis, et al., 2017). This starts with eliciting meaningful evidence that can be used to interpret student learning and inform next steps. The primary way that educators elicit meaningful evidence is through assessment. Assessment helps educators measure effectiveness and informs their educational decision-making by:

- Measuring the impact of our policies, practices and programs;
- Supporting equity by providing insight into the educational outcomes of different subgroups;
- Making comparisons between students, groups and systems;
- Providing information to inform continuous improvement;
- Supporting teaching and learning of the guaranteed curriculum;
- Informing decisions about classroom practice, instructional support and intervention; or
- Providing guidance about next steps for teachers and students in a classroom (WestEd, 2020a).

Key Considerations for Evidence of Student Learning

Evidence of student learning is a key component of the formative assessment process because it informs student and teacher decisions about next steps to move students towards their learning goals. While there are a multitude of strategies for eliciting evidence of student learning, WestEd (2020a) suggests the following key considerations:
Design and implement evidence intentionally.
Make student learning visible.
Inform students and teachers about next steps to encourage student self-regulation.
Embed opportunities to elicit evidence during learning.

As a key element of the lesson design process, eliciting evidence should be part of a strategic plan to support students in their intended learning, so it’s not done on-the-fly (Wiliam, 2018). While teachers are encouraged to adjust their evidence-gathering strategies while teaching, the central purpose of eliciting evidence should be focused on making student learning visible, such as collecting evidence as students engage in a performance that makes thinking into a tangible product. This could include opportunities during teacher-to-student interactions, peer interactions or examinations of student work. The goal should be for students to begin to manage their own learning beyond just “meeting” or “not meeting” the success criteria (WestEd, 2020a). Teachers should have a firm understanding of where students are along their learning progression to inform not only where they need to go next in their instruction, but also determine the type of feedback that will be most effective in helping students understand, “What am I good at?”; “What do I need to work on?” and “What should I do next?” (Chappuis, et al., 2017).

Formative assessment practices keep teachers in touch with student learning and students in touch with their own progress. These practices help develop students’ understanding that their actions can make a positive impact on their achievement (Chappuis, et al., 2017). Students need to see the formative assessment process as an integral and embedded part of teaching and learning (Wiliam, 2018). The process of eliciting evidence should occur during learning so that the information collected can immediately inform next steps by continually checking to see that students are making progress (WestEd, 2020a). When evidence is not collected during instruction, teachers are unable to determine when progress is not being made until it is often too late. This wastes valuable instructional time because teachers are unable to make timely adjustments to their instructional practices when they are needed most.

Supporting Students to Manage Their Own Learning

In the previous section we learned that by asking students to engage in activities that directly relate to the learning goals and success criteria, students feel respected by their teachers and see the school experience as purposeful and coherent (Erkens, et al., 2017), but how do the choices we make about eliciting evidence of student learning impact student feelings of respect, purpose and coherence? Engaging students in meaningful opportunities to share and reflect on their learning allows them to become managers of their own learning. When students understand what they are learning and why they are learning it, motivation and
engagement increase as students begin to become more metacognitive in their thinking, recognizing and monitoring their work to become self-directed learners. Students are able to continuously self-monitor and feel in control of their growth process when they see for themselves that they are close to reaching their learning goals, thus replacing fear and anxiety with confidence and persistence. By providing students with a clear and understandable vision of their intended learning, we are increasing their motivation and achievement because our instruction is being guided by clearly defined goals (Chappuis, et al., 2017).

What is Meaningful Evidence?
For evidence of student learning to provide students and teachers with the information they need to make well-informed decisions, the evidence must be meaningful. This requires thoughtful planning to ensure that the information gathered is telling students and teachers what they need to know. It is essential that the evidence gathered is aligned to the learning goals and success criteria. When the evidence is aligned, students and teachers will be able to understand how they are progressing toward the learning expectations of the lesson and students will see the evidence elicited as purposeful and coherent. Because quality designs begin with the end in mind, classroom assessment should uncover the discrepancy between where students are and where they need to be in their learning (Erkens, et al., 2017). Ensuring that evidence gathered is aligned to the learning goals ensures that evidence gathered can reasonably represent the specific learning of the lesson (WestEd, 2020a).

As you may recall from the previous section, learning goals represent a “lesson-sized” step in a learning progression toward the end-of-year grade level standards. Learning progressions represent the path that learners will travel to reach their lesson destination (learning goals). Success criteria reflect the way that students will demonstrate they have achieved that learning goal over the course of a lesson. So, during a lesson, evidence gathered should be designed to provide check points on student understanding leading up to the learning goal. One piece of evidence will not reflect the full content and complexity of the standard (WestEd, 2020a). Teachers should keep in mind that the evidence gathered should reflect both the content described in a learning goal, as well as the level of cognitive complexity. It is not necessary for every evidence gathering opportunity to be aligned to all aspects of the learning goal, but cumulatively, they should provide an actionable picture of student learning; the full breadth of the learning goal and how well students are able to demonstrate their learning on the success criteria.

Because various interpretations for a key skill or process outlined in a standard can exist, it is important for PLCs to establish common levels of cognitive complexity. Establishing these common understandings as a team will increase the likelihood that there is equity from
classroom to classroom because teachers will have shared expectations regarding the degree of rigor for each of the standard components (Erkens, et al., 2017).

While there are multiple frameworks that exist in education to describe cognitive complexity, perhaps the most widely used is Norman Webb’s Depth of Knowledge (DOK) Model. Because testing companies commonly use Webb’s model in developing external assessments, teachers should consider eliciting evidence within their classrooms using the same or similar DOK levels to ensure that students are prepared for the cognitive complexity that external assessments demand. For example, figure 3.8 below details the nuances that can exist within the single word *describe*. While it might be easy for some educators to assume the word *describe* is a lower-level recall challenge, this example reinforces why teams need to carefully examine intended levels of complexity within their PLCs to reach consensus (p. 86). Below are a few examples of how the word *describe* could be employed differently at each of the four DOK levels:

Figure 3.8: Example of Word Nuances at Various DOK Levels

<table>
<thead>
<tr>
<th>Learning Goal</th>
<th>I can <em>describe</em> the life cycle.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOK 1: Recall</td>
<td><em>Describe</em> the four stages of the monarch butterfly’s life cycle. (Requires simple recall)</td>
</tr>
<tr>
<td>DOK 2: Skill or Concept</td>
<td><em>Describe</em> the differences between the first and the fourth generations of the monarch butterfly’s life cycle over the course of a single year. (Requires students to discern the differences between the two types of life cycles)</td>
</tr>
<tr>
<td>DOK 3: Strategic Thinking</td>
<td><em>Describe</em> a model that represents the relationships that exist between the life cycle of a monarch butterfly and its migration patterns. (Requires a deep understanding of the life cycle and for students to determine how best to represent it when blended with another concept)</td>
</tr>
<tr>
<td>DOK 4: Extended Thinking</td>
<td><em>Describe</em> and illustrate the commonalities in life cycle patterns among three migratory creatures. (Requires students to investigate, think and process through multiple conditions of the problem)</td>
</tr>
</tbody>
</table>

*Adapted from *Essential Assessment* (Erkens, et al., 2017).

In addition to being aligned to the learning goals and success criteria, for elicited evidence to be deemed meaningful, it should provide multiple sources of meaningful evidence at various points throughout the lesson. Because there is no one-size-fits-all regarding eliciting evidence of student learning, multiple sources can offer a broader, holistic view of student thinking and
allow teachers to take pedagogical action. This is because students and teachers need different information at different points in a lesson to make sure that student learning is moving forward, and students and teachers need nuanced information about where students are in their learning. One question or task is unlikely to provide the full picture of student learning necessary to make well-informed decisions (WestEd, 2020a).

The Kentucky Academic Standards for Reading and Writing, Mathematics, Social Studies and Science include student practices which emphasize disciplinary discourse and meaning making practices. According to researchers Margaret Heritage & E. Caroline Wylie (2020), evidence should be elicited that encourages the sharing and building on of thinking rooted in disciplines, including:

- Interactions and exchanges that promote new ways of thinking and promote connection and inquiry;
- Questions that invite deeper reflection and answers that must be justified and connected;
- Discussion and argumentation; and
- Professional engagement with the subject matter.

Disciplinary discourse makes thinking visible in ways that can support the formative assessment process and supports the development of deeper understanding through collective meaning-making. As teachers design lessons that integrate meaningful opportunities to elicit evidence of student learning, priority should be given to strategies that engage students deeply in disciplinary discourse. This means more than just talking about the content in a classroom, but rather opportunities to share and build upon thinking rooted in the discipline (WestEd, 2020a).

Strategies to Elicit Evidence

In planning future lessons, it is important for teachers to think about the kinds of evidence that could be gathered during a lesson that will best elicit the information they need to determine if students are progressing toward their learning goals (WestEd, 2020b). Teachers should intentionally design opportunities to elicit evidence that will make student thinking visible and give teachers and students a full picture of where students are along their learning journey. As mentioned earlier, regardless of the discipline or lesson content, teachers should continually be thinking about what strategies would:

- Be aligned?
- Elicit multiple sources of meaningful evidence?
- Prioritize disciplinary discourse and practices? (WestEd, 2020a).
The example below reflects a learning goal and success criteria aligned to the Kentucky Academic Standards for Reading and Writing for grade 6.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Learning Goal</th>
<th>Success Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C.6.1.c:</strong> Support claim(s) with clear reasons and relevant evidence, using credible sources, acknowledging opposing claims, and demonstrating an understanding of the topic or text.</td>
<td>Identify relevant evidence from different texts to support a claim.</td>
<td>Annotate texts to identify strong evidence to support my claim and note how I might use it in my essay.</td>
</tr>
</tbody>
</table>

Over the course of the lesson, students will learn to identify relevant evidence from multiple texts to support a claim. They will later demonstrate their learning by annotating the texts to flag strong evidence and ideas for use in their own essays. Some suggested strategies to elicit evidence that could be integrated into this example lesson could include:

- Opportunities for students to share their opinions and experiences related to the claim by guiding students to record the opinions or experiences for use during classroom discussions (peer and teacher led);
- Conducting peer discussion around the relevance of different articles on a specific topic;
- Facilitating a teacher quick review of the evidence students have highlighted in the text;
- Initiating individual discussions with students about highlighted passages in the text; and
- Establishing partner work about specific, selected passages and how students might use them in their essay through an assessment conversation with the teacher about evidence. Some suggested prompts might include:
  - How does this example support your claim?
  - How does this example connect with the previous example you chose?
  - How well does this evidence support the claim?
  - How might you revise your evidence to better support the claim?

Thus, these examples:

- Are **aligned** to the learning goals and success criteria and are focused on understanding how students are moving forward as they learn to identify relevant evidence from different texts to support a specific claim;
- **Offer multiple opportunities** for students to demonstrate their thinking in front of their peers and teacher; and
• **Prioritize** ways for students to engage in **disciplinary discourse** with their peers and their teacher, deepening their understanding and the development of disciplinary literacy skills.

Eliciting evidence in a **remote learning** setting may require different strategies, but still should focus on the same priorities (Fisher, et al., 2020). For example, teachers may elicit evidence of student learning through disciplinary discourse using breakout rooms and commenting on each idea using a collaboration tool (e.g., Google Docs). Teachers can float between breakout rooms to listen in on student discussions or could pull students into a one-on-one breakout room for quick individual discussions with the teacher. Distance learning structures such as these allow teachers to collect the evidence they need to inform next steps, while providing students with multiple opportunities to demonstrate their thinking, deepen their understanding and develop their disciplinary literacy skills (WestEd, 2020a).

**Eliminating Barriers: Why Equity Matters in Formative Assessment**

As we have discussed previously, planning for formative assessment involves intentional design to ensure that both students and teachers elicit meaningful evidence. Another aspect of this intentional design is ensuring that the evidence elicited is not clouded by unnecessary barriers that get in the way of students showing their learning. Equitable formative assessment ensures that all students, regardless of their unique experiences and qualities, can engage meaningfully in the formative assessment process and have an opportunity to show their thinking. Formative assessment is equitable when every student:

- Can fully engage in the formative assessment process;
- Is able to provide accurate evidence of what they know and can do;
- Receives feedback and support based on where they are in their learning; and
- Can build capacity to manage their own learning (WestEd, 2020a).

When eliciting evidence of student learning, teachers should consider how to ensure that all students can fully access the opportunity to make their thinking public in order to move their learning forward. When teachers use formative assessment the right way, they build meaningful relationships within their classrooms (Erkens, et al., 2017), but to do so requires an intentional design and use of strategies to ensure that opportunities to elicit evidence of learning are culturally responsive, inclusive and offer student choice. Strategies to elicit evidence should get at what students know and think rather than ignoring or hiding their thinking. Attending to these considerations in the design of strategies to elicit evidence of student learning can help build a classroom culture in which students are engaged and motivated to share their learning and students feel empowered to manage their own learning (WestEd, 2020b).
Culturally Responsive Formative Assessment

Culturally responsive teaching is a mindset that respects and values each student’s culture, experiences and history and holds all students to high expectations (WestEd, 2020a). According to Gloria Ladson-Billings (2020), culturally relevant and responsive teaching promotes cultural competence, academic success and sociopolitical consciousness. To incorporate culturally responsive teaching requires an open mindset, intentional planning, strategic teacher actions and carefully planned student learning experiences. Effective formative assessment practice involves providing engaging instruction where students experience grade level tasks that build interest tied to their background knowledge and culture. By acknowledging students’ ethnic, racial and linguistic identities within the context of their grade level work, we are providing students with formative assessment opportunities that are engaging, affirming and meaningful (Ladson-Billings, 2020). Culturally relevant and responsive teaching is important for formative assessment because it creates a classroom culture where all students are invited to effectively manage their own learning, and it allows students to provide evidence of student learning that truly demonstrates what students know and can do, unclouded by barriers and biases (WestEd, 2020b).

Bringing culturally responsive teaching into formative assessment practice requires considering each student’s strengths and growth areas as one plans to elicit evidence of student learning.
This means eliciting evidence of learning in ways that allow students to tap their cultural strengths, individual curiosities, learning styles and home language knowledge. Students engage in learning and sharing evidence of their learning in ways that are relevant and value their strengths and experiences. When considering culturally-responsive design in formative assessment, teachers should ask themselves, “Does this opportunity to share student learning allow each of my students to bring their cultural and language strengths to bear?” and “Does this opportunity disadvantage students who may not have prior knowledge related to the context?” (WestEd, 2020a).

Strategies for Culturally Responsive Formative Assessment

Culturally responsive formative assessment creates opportunities for students to provide and reflect on evidence of their own learning that truly reflects what they know and can do. Some examples of strategies to support culturally responsive formative assessment include:

- Welcoming students’ full identity into learning by helping them activate prior knowledge that taps into their culture, language and history;
- Helping students make explicit connections between their own lives, what they are learning and the ways they are showing it;
- Giving students opportunities to celebrate and share their culture, language, experiences and community as they provide evidence of their learning; or
- Giving students opportunities to connect and apply their real world lived experiences to local community-based issues (Ladson-Billings, 2020).

Teachers should reflect on how they can bring a culturally responsive mindset to their formative assessment practice by considering:

- How can I demonstrate that I value my students’ cultural and language strengths, experiences and histories?
- In what ways can formative assessment be culturally responsive in my classroom?
- How can I elicit evidence of student learning that values my students’ broad range of strengths and experiences?
- How can culturally responsive formative assessment support student learning? (WestEd, 2020a).

Inclusive Formative Assessment

Formative assessment practices are inclusive when all students can fully access and engage in ways that allow them to demonstrate what they know and can do. Educators should plan to
design evidence-gathering opportunities that ensure that all students are able to fully understand the language, symbols and information with which they are engaging, regardless of prior knowledge, language background or disability. This can mean representing information in different ways, explicitly teaching key vocabulary and symbols and checking for understanding (WestEd, 2020a).

It also means that all students, including English learners, students with disabilities, students of various racial and ethnic backgrounds, and students with a variety of learning styles, can be successful in expressing themselves. Teachers should regularly consider, “Does this opportunity allow each of my students to be successful in sharing what they know and can do?” This may include appropriate scaffolds and options to support expression that focuses on the learning, not on mandatory modes of expression that may pose barriers such as assessment bias.

Assessment bias refers to the “qualities of a test that can offend or unfairly penalize test-takers because of personal qualities such as gender, race, ethnicity, religion, or similar group-defining characteristics” (Popham, 2010). Inclusive education considers the diversity of all learners and is grounded in the premise that all students are special, have the potential to learn and deserve to be supported (Opertti, 2017). Inclusion in formative assessment seeks to eliminate biases and barriers by ensuring that all students receive equitable learning opportunities (WestEd, 2020a). According to WestEd some Strategies for Inclusive Formative Assessment include:

- **Knowing Your Learners:** Inclusive formative assessment practices start with understanding your learners. This means not only understanding and planning formative assessment to meet the specific learning needs of students with disabilities and English learners, but also understanding the needs of all students since learners have their own unique styles and methods for interacting (Erkens, et al., 2017).

- **Presenting Information Using Multiple Formats:** Providing information in a variety of formats (e.g., text, audio, video, images, graphs and charts) can ensure that diverse learners have access to the information they need to learn. Consider how specific learners access information and provide alternatives that can ensure their success (WestEd, 2020a).

- **Offering Students Options for Providing Evidence:** Formative assessment relies on eliciting evidence of student learning that can inform the students and the teacher about where students are in their learning. Allowing students different ways to share that evidence can help ensure that the evidence is meaningful. For example, could students present research findings as a written text, oral presentation or series of charts and still provide specific information about their progress toward the learning goals?
Would that allow more students to be successful and provide a more accurate picture of where they are in their learning?

- **Using Appropriate Scaffolds and Accessibility Supports:** Students should be provided appropriate scaffolds, accommodations and accessibility supports to allow them to fully engage in the formative assessment process, including not only providing evidence of their learning, but also in the self, peer and teacher feedback that will inform next steps in learning.

- **Inviting Students to Provide Feedback:** Students should be invited to provide feedback on ways that the formative assessment process could be more inclusive. Did the accessibility support provided to students help them? Are there other strategies that could allow students to more effectively share their learning?

- **Considering Students’ Remote Learning Environments:** This includes computer access, sufficient internet bandwidth, access to learning support, and the availability of a workspace that allows them to meet the learning goals and success criteria. This may mean allowing students to keep their camera off to conserve bandwidth, providing print materials, connecting with students by phone or allowing them to work during evening hours when they may have access to adult support at home. While teachers don’t usually have control over these conditions, understanding them can support planning for alternative ways for students to access materials and share evidence of their learning (Fisher, et al., 2020).

**Student Choice in Formative Assessment**

The goal of formative assessment is not only to ensure that students meet their learning goals, but also that they develop the skills to manage their own learning (also known as self-regulation). According to Cassandra Erkens (2017), self-regulation is “an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior” (p. 113). When students have the autonomy or power to take ownership over their learning, students are said to have agency.

Offering student choice builds student agency and ownership of learning, which is essential for the formative assessment process. The design of the range of evidence gathering strategies in a lesson should provide choice, autonomy and relevance for students. This promotes motivation and engagement and allows students to see themselves as the primary managers of their own learning (WestEd, 2020a). When considering strategies for student choice in formative assessment, teachers should:

- Start with clarity about the learning goals.
- Engage students in co-constructing success criteria.
- Offer multiple ways for students to share evidence of their learning.
Welcome student ideas about reasonable alternatives to share evidence.
Value different ways that students approach their learning.

Student choice should be anchored in strong teacher and student clarity about the specific learning goals so that teachers can determine where choice is appropriate and can improve the learning for students. Engaging students in co-constructing success criteria can give students a voice in how they show where they are in their learning. By providing students with different options about how they can share evidence of their learning, teachers help to ensure that students understand the specific learning they are focused on, no matter how they choose to share their ideas, and teachers create a safe classroom climate in which students have real opportunities to suggest alternatives and improvements (WestEd, 2020b).

Planning Evidence-Gathering Opportunities

Lesson Design Considerations: Different Evidence at Different Times

Years ago, psychologist David Ausubel (1968) argued that what the learner knows is the most important factor influencing student learning, and it is the teacher’s job to ascertain this and plan accordingly (Wiliam, 2018). Teachers regularly plan the instructional activities that take place in their classrooms, but oftentimes, planning to elicit evidence from those activities are done “on the fly” (p. 83). Designing lessons that elicit meaningful evidence of student learning that can support students and teachers to move their learning forward is critical to the formative assessment process.

Over the course of a lesson, students are working on different things and in different ways as they build up to demonstrating their learning through the success criteria. This is important to keep in mind in designing evidence-gathering opportunities throughout a lesson because specific aspects of student thinking are more important at different points in the lesson. While some educators rely too heavily on only assessing students at the end or conclusion of a lesson, knowing why they are eliciting specific evidence and determining the aspects of student thinking they most want to focus on will help teachers decide where in the lesson they should elicit the evidence (WestEd, 2020a).

There are a multitude of evidence-gathering opportunities that can be employed throughout a lesson. The beginning of a lesson could include identifying prior knowledge, clarifying misconceptions or checking for understanding about learning goals and success criteria (just to name a few), while the middle of a lesson might include checking for understanding on key concepts and skills that build to the learning goals, providing opportunities for individual and collaborative sense-making or clarifying student misconceptions. The end of a lesson could include sharing progress toward success criteria or fine-tuning learning and performance
toward success criteria (WestEd, 2020a). For discipline-specific examples of eliciting evidence at the beginning, middle or end of a lesson, visit Module 4: Eliciting Evidence of Student Learning found on the balanced assessment professional learning modules page.

It is important to ensure that over the course of a lesson, evidence-gathering strategies are aligned to disciplinary discourse and practices from multiple sources are prioritized. By engaging students in evidence-gathering opportunities that employ a **variety** of tasks and participation structures, teachers provide opportunities for a broader and well-informed view on student learning. When a variety of evidence is collected, teachers are more apt to determine when student learning is on track and when misconceptions are leading them in a different direction (Wiliam, 2018). These different tasks and structures should be aligned both to the learning goals and success criteria, but also to where students are during a lesson. Table 4.0 below provides a few examples of tasks and the corresponding participation structures teachers could incorporate in their classrooms (WestEd, 2020a).

### Table 3.10: Variety of Tasks and Participant Structures

<table>
<thead>
<tr>
<th>Participant Structure</th>
<th>Classroom Talk</th>
<th>Student Work</th>
<th>Peer and Self-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Conference with teacher</td>
<td>Written response, essay, jigsaw</td>
<td>Thumbs up/thumbs down, exit ticket, reflection journal</td>
</tr>
<tr>
<td>Pair</td>
<td>Turn and talk, peer conference, teacher and peer questioning, pair share, elbow partners</td>
<td>Presentation, work plan, graphic organizer, reading guide</td>
<td>Peer conference using a rubric, peer editing</td>
</tr>
<tr>
<td>Small Group</td>
<td>Teacher and peer questioning, discussion, share work</td>
<td>Presentation, work plan, graphic organizer, reading guide, jigsaw</td>
<td>Carousel, group presentation feedback</td>
</tr>
<tr>
<td>Whole Class</td>
<td>Teacher and peer questioning, classroom discussion</td>
<td>Class play, Four Corners, debate</td>
<td>Gallery walk, parking lot</td>
</tr>
</tbody>
</table>

**Evidence-Gathering Routines**

Evidence-gathering routines are critical to informing students and teachers about next steps in their learning. There are many evidence-gathering routines that are likely already in place in
classrooms that teachers can leverage. The key is for teachers to choose routines which elicit evidence at different points throughout their lessons and to select strategies that best help to fuel the formative assessment process by maximizing equity, fairness and choice. According to WestEd, teachers can elicit meaningful evidence through five primary evidence gathering routines: activating prior knowledge, academic dialogue, questioning, observation and analysis of student work, and peer and self-assessment (2020b).

**Routine #1: Elicit Evidence Through Activating Prior Knowledge**
Activating prior knowledge is an important instructional strategy that can help students connect things they already know with new learning. It also is an opportunity to invite students’ cultural strengths, language knowledge and personal identity into the learning and to promote engagement. Prior knowledge activities are also important opportunities to elicit evidence about where students are in their learning coming into a lesson. This helps to inform teacher decisions about building up background knowledge, clarifying misunderstandings and informing how to help all students find entry points into lessons.

Prior knowledge activation opportunities are often provided at the beginning of a lesson, but they can be employed throughout a lesson, whenever it is useful to connect what students are learning with what they might already know. The *Kentucky Academic Standards* provide specific information about the vertical alignment of the standards that could be a helpful resource in planning to identify students’ prior content knowledge.

- **In Mathematics**: Each mathematical standard (K-8) presents coherence in the clarifications section, providing links to the matching standard from the preceding and following grade.
- **In Reading & Writing**: The reading and writing standards also each offer progression information, linking to the matching standard in the preceding and following grade.
- **In Science**: The standards offer articulation of the Disciplinary Core Ideas (DCI) across grade levels.
- **In Social Studies**: The social studies standards are intended to convey the importance of both conceptual knowledge and understanding within four disciplinary strands in social studies (civics, geography, economics and history) and the development of the inquiry practices of questioning, investigating, using evidence and communicating conclusions. The complexity of the standards within the concepts and practices progresses from kindergarten through high school.
Routine #2: Elicit Evidence Through Academic Dialogue
Engaging in academic dialogue allows students to both share and develop their thinking. It supports exploration of ideas, connections and inquiry. When students talk, teachers (and students themselves) can better understand what students know, the strategies they are using and how they are thinking about the content. When structured equitably, eliciting evidence through academic dialogue should:

- Build a classroom culture that encourages questions, suggestions and learning from mistakes within small and whole group structures.
- Establish opportunities to explore multiple viewpoints and solutions.
- Ensure dialogue allows for equitable participation by all students.
- Establish consistent use of both large and small group dialogue.
- Anchor discussion in disciplinary practices and discourse to make meaning in the subject area (when aligned to learning goals and success criteria).
- Provide an opportunity for culturally responsive formative assessment that is fair and accessible to all students (WestEd, 2020b).

Routine #3: Elicit Evidence Through Questioning
Asking questions is a key aspect of the way that students and teachers interact in classrooms. However, questions that focus on right or wrong answers or student questions that generate a closed exchange, don’t generate meaningful evidence of student learning to inform the formative assessment process. When intentionally designed and implemented, effective questions are a powerful tool to gather evidence of student learning, as well as to guide students to manage their own learning through the next steps of the formative assessment process. Teachers seeking to gather meaningful evidence through questioning should:

- Plan questions in advance.
  o Develop questions that will elicit thinking at key points in the lesson.
  o Sequence questions to address growth in student knowledge and skills over the course of the lesson.
- Apply the research on effective questioning.
  o Allow for adequate wait time.
  o Integrate questions that encourage higher-order thinking.
  o Employ pre-thinking strategies (pair/share, pre-write) when asking cognitively complex questions.
- Use questions to engage in assessment conversations.
  o Build on student thinking to make connections. (How would this connect to what we studied in our last unit on motion?)
Assessment conversations differ from typical teacher question/student answer interactions in that they are designed to explore student thinking. Teachers should identify the questioning routines that they find most powerful to help them plan for those strategies in advance. For example, mathematics teachers looking for resources to support questioning might choose to reference the Kentucky Academic Standards resource: Engaging the SMPs: Look Fors and Question Stems. By thinking through the kind of evidence of student learning specific questions elicit, and how they use that evidence, teachers are better able to plan questioning routines that ensure evidence is meaningful, fair and offers choice. Through modeling of routines and structures, students begin to internalize the questioning stems they hear their teachers using and can begin to support the learning of others by replicating similar stems with their peers (WestEd, 2020a).

Routine #4: Elicit Evidence Through Observation and Analysis of Student Work
Student work can take a variety of forms. With thoughtful design, it can be a powerful way to elicit evidence of student learning. Students who review work and understand the qualities of that work have an increased understanding of how to grow in their own achievement (Erkens, et al., 2017). When planning to elicit evidence of student learning, teachers should keep in mind that any evidence collected needs to focus on making student thinking visible so that it can inform next steps in learning. It also can prioritize disciplinary practices and discourse to ensure that student thinking is anchored in the specific disciplinary learning outlined in the standards. Some examples of student work that elicit evidence of this type could include:

- Drawings;
- Investigations;
- Diagrams;
- Student writing;
- Graphs;
- Graphic organizers;
- Concept maps;
- Detailed outlines;
Regardless of which type of evidence students are asked to elicit, teachers should intentionally design evidence-gathering opportunities that are fair and promote choice and autonomy so that students can accurately show their thinking and begin to manage their own learning. Teachers should ensure that students fully understand the language, symbols and information with which they are engaging and that they have the appropriate scaffolds and options to support expression of that learning (WestEd, 2020a).

**Routine #5: Elicit Evidence Through Peer and Self-Assessment**

Teachers are not the only ones responsible for eliciting evidence of student learning in the formative assessment process. Students also play a key role by developing the metacognitive skills that allow them to see that by making their ideas and learning visible, they are providing evidence of their own learning. Once they understand this, students can better elicit and interpret the evidence they collect from themselves and their peers (Wiliam, 2018). While this isn’t something most students do automatically, through modeling, direct instruction and structured opportunities, students can become effective at eliciting and using evidence of learning. Providing these supports is the teacher’s role (p.83). While peer and self-assessment routines are designed to help students manage their own learning, it is also an opportunity for teachers to gain insight into students’ thinking as they elicit and use evidence from their peers (WestEd, 2020a).

**Additional Planning Resources**

In addition to the *Kentucky Academic Standards* resources listed for activating prior knowledge above, KDE offers additional resources to support teachers in offering standards-aligned lessons. These resources include content-specific protocols for reviewing assignments as well as example assignments. For a more in-depth analysis of these resources for mathematics, reading and writing, or social studies, consider reviewing the KDE’s Assignment Review Protocols or Student Assignment Library Resources.

**Interpreting Evidence of Student Learning**

As emphasized earlier in this framework, understanding where learners are heading and how they will know if they are successful is essential for teaching and learning and is a key aspect of quality assessment practices. Knowing if students are successful throughout the formative assessment process requires that teachers and students continually interpret meaningful evidence elicited from student learning. Evidence is defined as any student learning that can be
observed, and it is understood in relation to the specific learning goals that students are working toward. This continuous, ongoing process of interpretation is often referred to as evidence-based interpretation and is used to engage students and teachers in identifying where students are along their learning progression and where they need to go next based on a careful analysis of student artifacts.

Teachers can better understand a students’ learning development when they move beyond just knowing which students “got it” or “didn’t get it.” Knowing whether an assignment is complete or incomplete does not provide any actionable evidence that can be used to move learning forward. When teachers have clarity on the disciplinary and cognitive path towards learning goals and can clearly communicate that information to students through regular, ongoing feedback, students are better able to develop the skills to become self-directed learners and move their learning forward (WestEd, 2020a). Students who can conduct self-assessment and interpret evidence of their own learning are continually developing the skills necessary for becoming self-regulated learners (Chappuis, et al., 2017).

Engaging Students with Interpreting Evidence of Learning

Student engagement is key to the interpreting of evidence and allows teachers and students to meaningfully engage in the formative assessment process by embracing opportunities to make learning public. When students are engaged in interpreting the evidence of learning they produce, they are developing the skills of metacognition (thinking about their thinking) and self-regulation (WestEd, 2020a). Because metacognition involves knowing what one knows and can do, growing research suggests that the most effective learners are self-regulating learners. When we train students to reflect on evidence of their learning and be metacognitive, their performance in the classroom is improved (Wiliam, 2018).

According to John Hattie’s research (2009), metacognitive strategies have an effect size of 0.69. Together, disinhibition - the skill of not being distracted or stuck, updating/monitoring what we are learning, and being skilled at shifting between tasks to attack problems combine to form what is referred to as metacognition or self-regulation (Clarke & Hattie, 2019). Self-regulated learners monitor their learning by comparing their work against specific learning goals and success criteria and the ideas of their peers, making adaptations to their learning strategies as they see fit. When self-regulated learners engage in this process, they can make connections between behaviors exhibited during the learning process and evidence of learning produced, thus strengthening their own understanding and the understanding of those around them (WestEd, 2020a).
Classroom Culture and Evidence

Climate and culture are often used interchangeably. However, the two are not synonyms. **Culture** reflects the norms, values, beliefs and traditions that are transmitted historically over time. Culture influences climate but is more fluid in nature. **Climate** is how members of a community experience that community, the mood of the community per se. The formative assessment process, in which students and teachers must work together to move students toward their disciplinary learning expectations and to become self-directed learners, relies on both classroom culture and climate (WestEd, 2020a). In order to sustain the work of formative assessment, the classroom culture must be carefully monitored and structured (Erkens, et al., 2017).

How can classroom culture support students to use evidence of their own learning? Students can become the kind of self-directed, engaged learners who can recognize evidence of their own learning, embrace opportunities to make their learning public and engage with evidence when the classroom culture empowers them to engage fully in the formative assessment process (WestEd, 2020a). In the book, *Visible Learning Feedback* (2019), authors John Hattie and Shirley Clarke share the following **seven key elements of an effective feedback culture** (p. 8):

**Key Element #1: Feedback resides within a framework of formative assessment.**
Feedback is one of the key ingredients of formative assessment. Improving learning through assessment requires that educators involve students in their own learning and self-assessment by sharing learning goals with them, helping students understand next steps, knowing how to take those steps and how best to improve. This is underpinned with the belief that all students can improve and that assessment has a tremendous influence on students’ motivation and self-esteem (p. 9).

**Key Element #2: Our goal for all learners is to give them the motivation, curiosity and willingness to learn and deepen current understandings (what Hattie refers to as “the skill, will, and thrill”).**

- **The Skill:** Knowing and building on what students bring to the classroom by teaching students the skills to own their own learning (leads to students’ self-feedback);
- **The Will:** The learning dispositions students hold and bring to learning experiences; and
- **The Thrill:** Motivating students to be invested in achieving the success criteria through co-construction and involving them in self-assessment (p.13).
Key Element #3: Spaced and deliberate practice, metacognition, embedded challenge mindsets and mind frames are effective.

- Spaced practice elicits improvement when teachers plan practice that is deliberate and the result of continual ongoing feedback. Massed practice - that is practice opportunities given in large amounts or within a shorter time frame - is not effective.
- A growth mindset - the belief that one’s skills, qualities and intelligence can develop over time with work - is enabling and most effective when students are in situations of “not knowing” and need to invest in learning more, such as when they make mistakes.
- Positive teacher mind frames go a long way to ensure authentic and effective feedback strategies for students. Positive mind frames bring about feelings of value and self-efficacy in students, which can have a more desirable impact on learning outcomes (p. 23).

Key Element #4: The key to new learning is for the normalizing and celebration of error. Students should feel safe to take risks in learning and make mistakes. Students are more enabled and invested in learning when they are in situations of “not knowing” and make mistakes (p. 13). Errors invite learning opportunities and should not be seen as shameful or embarrassing (p. 27) since making errors and having opportunities to correct those errors.

Key Element #5: Mixed ability grouping maximizes equity in learning. Mixed ability grouping can help to build motivation, social skills and independence and raise standards because students become more engaged in their own learning. Placing students in similar ability groups has negative equity effects because students in the top or bottom groups wonder why they should invest in their learning when the system has already made its decision (p. 38).

Key Element #6: Feedback should be task related, not ego driven. Mixing feedback about learning with praise “interferes with and dilutes the message about learning.” While praise for effort or praising specific student behaviors can sometimes prove helpful at building relationships, the most effective praise type is praise given to students for performing an activity well against various criteria (p.44).

Key Element #7: External rewards act as negative feedback. We need to motivate students intrinsically to want to learn. Programed instruction, praise, punishment and extrinsic rewards are the least effective forms of feedback. Hattie has determined that extrinsic rewards have a negative effect size of -0.34
on task performance. The use of extrinsic rewards also has been found to undermine engagement and regulation (p. 46).

Effective Student and Teacher Feedback

James Popham defines formative assessment as “a planned process in which assessment-elicted evidence of students’ status is used by teachers to adjust their ongoing instructional practices or by students to adjust their current learning tactics” (2010). This definition highlights the key role students can play in the assessment process, and at the heart of students’ self-assessment and peer assessment lies feedback (Bailey & Jakicic, 2012).

Feedback remains one of the most powerful influences on student achievement (Hattie, 2009). Used as a basis for improvement, feedback provides information about a person’s performance. When broken down into two parts, the word feed means to nourish, and back means in exchange or in return. Therefore, “feedback is meant to nourish learning through an exchange” (Almarode & Vandas, 2019).

Effective feedback helps students understand where they still need to build proficiency and guides them to employ the specific strategies needed to improve (Bailey & Jakicic, 2012). Simply put, effective feedback communicates to learners where they are and where they need to be. According to Susan Brookhart, the following three criteria characterize effective feedback (Almarode & Vandas, 2019):

1. **Timely** - Students have opportunities to respond to content close in time to when they were engaged in the learning and teachers provide ongoing feedback to students throughout the learning process so that adjustments and improvements can be made as needed (p.134). Feedback effectiveness is determined by whether it is delayed or immediate. Delaying feedback is helpful only when students have additional opportunities to respond through error analysis or test corrections. In most cases, immediate feedback is the most effective form of feedback because it allows learners the opportunity to make corrective modifications during their continued practice (p.135).

2. **Specific** - Giving students specific feedback regarding an action, event or process or additional steps they can take to improve on a task is more effective than general feedback (p. 135).

3. **Constructive** - Focused feedback that is specific to the learning and not just the learner and supports the learning process is considered constructive (p. 136).
There should be a focus in classrooms on timely, effective feedback and self-reporting (Bailey & Jakicic, 2012), and as John Hattie stresses in *Visible Learning*, “When teachers seek, or at least are open to, feedback from students as to what students know, what they understand, where they make errors, when they have misconceptions, when they are not engaged - then teaching and learning can be synchronized and powerful. Feedback to teachers helps make learning visible” (Hattie, 2009).

**Self and Peer Assessment**

The purpose of self and peer assessment is to help students manage their own learning. Students who manage their own learning can set goals, make plans, monitor their progress and adapt their approaches to learning. Essential to this process is being able to view their own work and the work of their peers critically and use it to make decisions about how to proceed in their learning (WestEd, 2020a).

Whether it’s through a well-designed project, a well-written essay or a strong hypothesis, students need a clear picture of the features of quality work. Unfortunately, educators are often the ONLY ones to evaluate and categorize student work based on its quality. However, many educational experts argue that by engaging students in the process of defining quality, students are empowered to make meaning from information. Rather than simply being handed a rubric or list of criteria, students can make personal connections to information, which often results in students taking charge of their own learning. When students begin to make comparisons between their work and the indicators of quality, they are generating the kind of feedback they need to assess their own learning (Bailey & Jakicic, 2012).

If students and teachers do not have a shared understanding of the learning they are working toward and a shared sense of quality, students will not be able to appropriately manage their own learning. Teachers need to explicitly teach self-assessment, give students opportunities to practice self-assessment and model the strategies students will be utilizing as embedded classroom routines within the formative assessment process (WestEd, 2020a). Helping students understand where they are in their progress compared to where they need to be increases the likelihood that students will address their own learning gaps during self-assessment opportunities (Erkens, et al., 2017).

**Common View of Success**

To build a common view of success, teachers can help students internalize expectations in a variety of ways. Some of these include using (WestEd, 2020a):
• **Learning goals and success criteria**: If students are to use them to guide their understanding of their own progress, they need more than just seeing the learning goals and success criteria posted on the board. To assess students using the success criteria often involves teachers and students conferencing to discuss what students are doing well and what they need to work on moving forward. By creating a box or checklist for each criterion, students can discuss each criterion they have mastered and justify that mastery through the evidence collected and demonstrated up to that point. These conferences can be conducted as an independent student reflection, between peers or teacher to student and should lead to a natural goal-setting conversation (Almarode & Vandas, 2019).

• **Transparent evaluation criteria**: Students should understand how their learning will be evaluated and what criteria will be used to determine where students are in their understanding. Regardless of the type of feedback, tool or approach used, students will ultimately need to know: What does quality look like? Who determines what quality looks like? Where am I in this learning process? Where do I need to go next? In *Hidden Lives of Learners*, we find out from Graham Nuthall’s research that up to 80 percent of the feedback that students receive every day is from their peers and 80 percent of the time that peer feedback is wrong or inaccurate. Therefore, it becomes increasingly more important for teachers to model providing quality feedback to students using learning goals, success criteria and a variety of elicited evidence examples (p. 144).

• **Examples and non-examples**: Providing students with examples that can illustrate what success might look like can strengthen student understanding of what students are working toward. Examples can be used to further illustrate non-examples by showcasing common missteps students may make and possibly modeling how to improve the non-example.
  
  o An example of this in reading and writing could be an argument that is well supported by evidence while a non-example could be an argument that lacks relevant support.

• **A variety of approaches**: Teachers also can provide students with examples of multiple approaches that can lead to success. This acknowledges students’ diverse learning needs, differing learning styles and diverse background knowledge through the ability to be successful and take ownership of their learning.
  
  o An example of this in social studies could be to demonstrate how different types of primary sources can be used to support an argument (political cartoons, propaganda posters, voice recordings of oral histories, diaries, photographs, maps, economic data and letters). Teachers also can offer students choice in the lesson to empower students to take charge of their learning. For example,
Explicit Teaching and Modeling

Nearly everything a teacher does during a lesson can be seen as modeling, but deliberate, purposeful modeling is a powerful instructional strategy. Teaching and modeling with self and peer assessment is no different. Teachers can help students develop their self and peer assessment skills by making intended learning visible and modeling what it looks like to make evidence of their own learning visible. By sharing their own work and process, teachers demonstrate what it looks like to view your own ideas and work as evidence and use that evidence to make decisions (WestEd, 2020a).

Teachers can help students learn to make sense of their own learning by providing explicit instruction and modeling of self-assessment to demonstrate how to look at evidence of their own learning in the context of the learning goals and success criteria. (WestEd, 2020a). By thinking aloud and comparing a shared teacher example against specific success criteria to describe the ways in which the example measures up (or doesn’t measure up) to those criteria, teachers are explicitly modeling the self-assessment process they hope students will replicate (Almarode, et al., 2019).

In the same way that teachers can make self-assessment explicit, they can support students in understanding where their peers are in their learning by thinking about evidence of their peers’ learning in the context of the learning goals and success criteria. This requires helping students understand they have a responsibility to notice their peers’ learning and to respond in ways that support progress toward the learning goals through teaching and modeling of the peer assessment. An example of this in social studies might involve showing students how to evaluate the reliability of a source so that students can provide feedback when evaluating peers’ arguments such as (WestEd, 2020a):

- I’m not sure that I trust this source. Do you know if the author is an expert on the issue?
- Do they have experience that gives them authority?
- Do you have another source that supports, or corroborates the information in this one?

Practice

Students need the time and space to practice engaging with evidence of their own learning and the learning of their peers. For students to develop the skills that they need to be independent learners, students need multiple opportunities to practice “underpinned by specific, clear goal-
based instruction.” This practice that works “hand in hand with specific skill building, deliberate teaching, feedback, and success criteria” is what is often referred to as deliberate practice (Hattie & Clarke, 2019). In order to get better at applying success criteria to their work and the work of their peers, students need opportunities to practice in an environment that makes it safe for them to manage their own learning and support the learning of their classmates through the following (WestEd, 2020a):

- **Classroom culture:** As discussed previously, students can engage in the formative assessment process when they are learning in a context that supports them to do so. To practice and improve at self and peer assessment, students need a culture that supports them to make meaning for themselves, manage their own learning, and participate and contribute to a collaborative environment; a culture that makes space for errors and mistakes as learning opportunities.

- **Low-stakes:** Students can practice and get better at meaningful self and peer assessment when they view assessment as an opportunity to understand where they are in their learning in order to make decisions about how to improve, as opposed to a way to determine if they are right or wrong, or whether they get a good grade or a bad grade. This could mean giving student pairs a set of questions to ask each other to guide peer-assessment of arguments that the students have constructed. Teachers also can gather evidence of student learning by observing students as they evaluate each other.

- **Repeated Opportunities:** Just like with other skills your students are learning, students need ongoing and repeated opportunities to practice the skills related to self and peer assessment. There is a need to progress from scaffolded self and peer assessment to being able to apply success criteria to evidence independently.

- **Feedback:** Repeated practice needs to be coupled with specific feedback about how students are doing at self and peer assessment. Students need a chance to hear their teachers’ perspective on what they are doing well and how they can sharpen their peer and self-assessment skills to become more independent. Students also need opportunities to discuss their own reflections on the process. Too much feedback overwhelms the learner and can distract from the learning goals and success criteria while too little feedback leaves the student and teacher unsure as to where to go next. Feedback should be planned around the Goldilocks principle - “not too much, not too little, but just the right amount” (Almarode & Vandas, 2019).

**Tools and Strategies for Interpreting Evidence**

In addition to teaching, modeling and opportunities to practice, teachers can provide a variety of strategies and tools that students can use to build student responsibility, ownership and the skills they need to manage their own learning through self and peer assessment. These tools
and strategies are not intended to be a one size fits all. Teachers will need to determine which tools and strategies are developmentally appropriate for the students they teach. Some examples of tools and strategies that can support students to make sense of evidence of their learning and that of their peers include (WestEd, 2020a):

- Templates;
- Self and peer correction checklists and look-fors;
- Sentence starters;
- Student-friendly rubrics;
- Background knowledge anchor charts;
- Graphic organizers for the intended learning sequence;
- Student reflection sheets;
- Question prompts; and
- Explicit comprehension strategies.

**Strategies for Interpreting Evidence of Student Thinking**

When teachers interpret evidence of student learning, they are focusing both on the progress of individual students and the class or groups of students in terms of their learning progressions. As teachers look at evidence of student learning, they are looking for gaps between where students are in their learning and where they are headed. There are multiple strategies that teachers can employ to interpret evidence of student thinking including (WestEd, 2020a):

- **Probing and unpacking students’ responses** in order to get an accurate idea of students’ progress toward learning goals. Merely identifying a gap is not enough to support effective pedagogical action. Teachers need to understand why there is a gap in order to support students to move forward, and students need to understand what helps and what hinders their understanding so they can work together to close those learning gaps (Erkens, et al., 2017).
  - **In Reading and Writing:** For example, a teacher may look for students simply restating what is presented in a quotation in their writing, as opposed to elaborating and making connections to their overall claim in opinion/argumentative writing.
  - **In Social Studies:** In a whole class discussion, a student might begin to describe how a primary source supports an argument. Probing with questions such as, “Say more about that. What do you mean?” can draw out and unpack student knowledge.
• **Interpreting evidence in light of specific disciplinary misconceptions** or issues that may constrain students from reaching their learning goals. Teachers can draw on their content knowledge as well as their understanding of how students learn disciplinary ideas and skills to anticipate these kinds of issues and support in-process pedagogical responses (WestEd, 2020a).
  
  o **In Reading and Writing:** For example, the teacher might notice a group of students misinterpreting the diction, or word choice, in a sentence or paragraph of text, which hinders their ability to analyze and explain how those words and phrases shape meaning and/or tone in the context of the passage or larger text.
  
  o **In Mathematics:** Teachers can encourage students to describe the process, the conceptual understanding, and informally the mathematical practices that drive a problem-solving process.
  
  o **In Science:** For example, a demonstration of a phenomenon that cannot be explained using the misconception might help some students reason through the misconception OR having small groups construct concept maps showing connections and interrelationships can produce evidence that allows students to see and discuss differences between their own thinking and the thinking of their peers.
  
  o **In Social Studies:** For example, before learning more about it, some students believe that the Constitutional protection of rights applies in every case, when in fact instances such as a parent searching a child’s bedroom do not violate the child’s Fourth Amendment rights. Evidence of this kind offers an example to teach about the difference between state action and non-state action.

• **Looking for patterns that show common errors, misconceptions or issues among groups of students.** This analysis supports direct feedback and support to individuals and groups of students. But it also should prompt reflection on and continuous improvement of the teacher’s practice.
  
  o **In Reading and Writing:** For example, the teacher might notice a student who claims to be opposed to gun control in an opinion/argument piece, yet the student cites reasons and/or textual evidence indicating he or she is in favor of the issue.
  
  o **In Mathematics:** The teacher might notice that a group of students can identify fourths when each part of the whole is the same shape and size (e.g., a rectangle partitioned horizontally and vertically into 4 same-sized squares), but cannot identify fourths when this is not true (e.g., a rectangle partitioned into two halves vertically, where one half is partitioned into two same-sized parts vertically and the other half is partitioned into two same-sized parts horizontally).
In Science: For example, a teacher might notice from student diagrams or explanations that students’ models of substances at the particle level do not include empty space (physical science), that objects sink because they have less mass (physical science), that plants obtain food energy by absorbing from soil through their roots (life science), or that Earth is the center of the solar system (earth and space science).

In Social Studies: For example, a group of young students may think about history through the lens that Christopher Columbus “discovered the New World,” when in fact people had been living in North America for thousands of years. Or students may think of American Indians living in undisturbed natural environments when evidence suggests they changed the natural forest composition through land management techniques such as burning.

Evaluating the Quality of Your Evidence

Even when evidence-gathering opportunities are carefully constructed and are aligned to learning goals and success criteria, the evidence elicited can still be clouded by other factors. An important step in making meaning of student evidence is evaluating the quality of the evidence in the context of the learning goals and success criteria. To best evaluate the quality of evidence that has been gathered, teachers should carefully consider their students’ prior knowledge, any language or technological barriers that exist, and how questioning can be utilized to propel student thinking and learning forward. This sometimes means filtering extraneous information that doesn’t provide insight into students’ current learning status relative to the learning goals and success criteria and focusing tightly on the intended learning (WestEd, 2020a).

In Reading and Writing: For example, a teacher may observe students misusing common grammar structures in a partner discussion focused on summarizing the central idea and supporting evidence in an informational text. If the learning goals are focused on comprehending and expressing ideas about informational text, oral language errors can be a distraction from the intended learning of the lesson.

In Mathematics: If a student is asked to work independently on a math problem that requires them to have a working knowledge of the game of golf, the evidence of learning being analyzed may not be representative of that student’s math knowledge if the student does not have the appropriate prior knowledge structures to engage with the content of the problem.

In Science: For example, if students are asked to work independently on a physics problem about Newton’s laws that requires them to have a working knowledge of a particular sport or the terminology specific to that sport, the evidence of learning may not be representative of the student’s science knowledge if the student does not have
the appropriate prior knowledge structures to engage in the problem. Complex scientific terminology and idiomatic usage of scientific terms (such as the common usages of terms like energy or work) may also be language barriers for students that prevent them from producing evidence that reflects their understanding.

- **In Social Studies:** A teacher may observe students misusing common grammar structures in a partner discussion focused on analyzing a primary source. If the learning goal is focused on using primary sources to identify strategies used by groups facing discrimination, oral language errors are extraneous information.

Evaluating the quality of evidence also can mean considering possible factors that may be limiting your students’ capacities to demonstrate what they know and can do relative to the learning goals and success criteria. Some examples of factors that may impact the quality of the evidence of student learning to inform good decisions about student learning include:

- **In Reading and Writing:** If students struggled in a lesson in which they were asked to determine a theme of a text and analyze its development through citing textual evidence, paraphrasing or summarizing, teachers should unpack whether this was because students struggled with the intended learning for the lesson or whether there were other factors at play (i.e., students were unable to read the passage).

- **In Social Studies:** If students struggle to understand the point of view in a primary source, teachers should ask questions to determine whether this is because students are having difficulty with unfamiliar, archaic language or with a lack of historical context.

As teachers work to identify any issues clouding evidence, it’s an opportunity to go back and elicit evidence in a different way to ensure that they understand what their students know and can do. The formative assessment process is based on utilizing meaningful evidence of student learning. Teachers must be aware of the other filters that may impact a student’s ability to demonstrate their knowledge as it relates to the evidence elicited to demonstrate specific learning goals and success criteria (WestEd, 2020a). Table 3.11 below summarizes evidence quality for the various aspects of feedback (Hattie & Clarke, 2019).

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Higher Feedback Evidence</th>
<th>Ineffective Feedback Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Setting</td>
<td>- Higher feedback evidence addresses task goals directly.</td>
<td>- Goals are vague and/or not used.</td>
</tr>
</tbody>
</table>

Table 3.11: Quality of Feedback Evidence
<table>
<thead>
<tr>
<th>Aspect</th>
<th>Higher Feedback Evidence</th>
<th>Ineffective Feedback Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• A specific and challenging goal is set, often with criteria for a high-quality performance on a task.</td>
<td>• Students do not understand the learning goals or success criteria.</td>
</tr>
<tr>
<td></td>
<td>• The goal is communicated so that students understand it (e.g., co-constructed success criteria and excellent examples are modeled and analyzed).</td>
<td></td>
</tr>
<tr>
<td>Kind of Feedback</td>
<td>• Higher feedback evidence draws attention to positive elements of the performance (i.e., the details of correct responses).</td>
<td>• Ineffective feedback evidence is focused solely on incorrect responses.</td>
</tr>
<tr>
<td></td>
<td>• Higher feedback evidence can include constructive criticism: advice that encourages the student to improve task performance.</td>
<td>• Ineffective feedback evidence does not provide information or support to improve performance or understanding.</td>
</tr>
<tr>
<td></td>
<td>• Higher feedback evidence can refer to changes in performance from previous efforts.</td>
<td>• Ineffective feedback evidence has a focus on comparisons to other students or marks and grades.</td>
</tr>
<tr>
<td></td>
<td>• Higher feedback evidence can include an element of self-assessment by students (including peer assessment) as part of the process of encouraging student autonomy and responsibility.</td>
<td>• Ineffective feedback evidence relies on extrinsic rewards (i.e., stars, stickers) and/or includes punishment.</td>
</tr>
<tr>
<td>Level of Feedback</td>
<td>• Higher feedback evidence provides information about a task, how well it was performed and how to do it more effectively.</td>
<td>• Non-specific feedback is given, such as praise or criticism for task performance without detail.</td>
</tr>
<tr>
<td></td>
<td>• At the process level: How can the student improve the learning processes needed to understand and perform the task?</td>
<td>• At the self-level: Comment on personal student qualities (positive or negative) with little or no information about processes or performance.</td>
</tr>
<tr>
<td></td>
<td>• At the self-regulation level: How can the student do a better job of planning, monitoring/managing their actions and</td>
<td></td>
</tr>
</tbody>
</table>
Anticipating Student Understanding

By anticipating the understanding of knowledge and concepts that students bring when embarking on new learning goals, teachers position themselves to respond with in-process feedback and questioning that can quickly move students in the right direction. Anticipating possible student responses is a set of skills that teachers hone over time as they develop their deep knowledge of the discipline and understanding of how students progress through their disciplinary learning. Teachers also rely on contextual factors including the profile of their individual students as learners and the specific way that learning is structured in the lesson (WestEd, 2020a). Because much of learning today relies on meaning making and conceptual understanding, the assessment practices of recall and memorization from years past are simply not enough (Erkens, et al., 2017).

Teachers prepare for a lesson by reflecting on common preconceptions, misconceptions and challenges or confusions that might arise for the students in their class. By thinking about when they are likely to arise in the lesson, teachers can plan to use strategies that will support students to clarify and advance their learning. Planning to use these strategies allows teachers to be ready to quickly take appropriate pedagogical action for many of their learners. Key to anticipating student responses to interpret in-process evidence is responding to what the student presents in the evidence of their learning, not what they do not do. Interpreting evidence to inform the formative assessment process is about more than just catching what students may not get right but rather where they are in their thinking and why (WestEd, 2020a).

An example of what it could look like to anticipate student understanding when planning a lesson is included in table 3.12 below (WestEd, 2020a):

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Higher Feedback Evidence</th>
<th>Ineffective Feedback Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>using strategies in approaching the task (described as metacognitive feedback)?</td>
<td></td>
</tr>
</tbody>
</table>

*Adapted from Visible Learning Feedback (Hattie, et al., 2019).
Table 3.12: Anticipating Student Responses in Social Studies

<table>
<thead>
<tr>
<th>Learning Goal</th>
<th>Success Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use primary sources to identify and evaluate successful strategies used by groups facing discrimination to expand their rights and liberties.</td>
<td>I can describe the strategies advocated by key Civil Rights leaders to improve equality.</td>
</tr>
<tr>
<td></td>
<td>I can construct an argument, supported by evidence from multiple sources, about whether specific strategies were successful.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start of Lesson</th>
<th>Middle of Lesson</th>
<th>End of Lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>In small groups, probe student ideas and misconceptions about the topic.</td>
<td>In pairs, students create graphic organizers to organize arguments.</td>
<td>As a class, engage in a discussion anchored in student-found evidence.</td>
</tr>
</tbody>
</table>

Using the social studies learning goal and success criteria in Table 3.12 above as an example, a teacher might anticipate student learning by answering the following questions below. One of many possible responses or teacher considerations are listed in italics beside each question as an example:

1. What are common challenges or misconceptions that might arise in teaching this content? *Students often understand history in overly simplified terms. For example, the Montgomery Bus Boycott was not simply a result of Rosa Parks refusing to give up her seat. Students may believe that all historical sources are equally trustworthy.*

2. How will I support students at these points in the lesson? *Guide students as they evaluate sources to understand the context of historical events and the multiple perspectives of the historical actors. Help students understand how to evaluate sources by asking questions that require them to think critically: Who wrote the document and why? What claims does the author make? What is the author’s point of view? Under what circumstances was the document created? Do other documents agree?*
Examples of Evidence-Gathering Strategies Across Disciplines

Start of Lessons
As mentioned previously, evidence-gathering routines are critical to informing students and teachers about next steps in their learning. According to WestEd, teachers can elicit meaningful evidence through five primary evidence-gathering routines:

- Activating prior knowledge;
- Academic dialogue;
- Questioning;
- Observation and analysis of student work; and
- Peer and self-assessment (2020b).

All five strategies can be employed at differing stages through a lesson and may be better suited for a specific discipline, depending on the student responses that teachers are anticipating and the intended learning goals. While this is only a sampling and not a comprehensive list, table 3.13 below provides some example strategies across disciplines and the potential student misconceptions that can arise. Each paragraph explanation that follows coincides with a matching row or strategy within table 3.13. The following planned evidence gathering strategies, coupled with anticipated student responses in order to facilitate in-process feedback during teaching and learning, are just a few examples that can be used at the beginning of a lesson.

At the start of a reading and writing lesson, students can engage in disciplinary discourse in small groups, discussing the type of textual evidence they would be looking for to support a claim. This collaborative discussion can support students to focus their attention as they read a variety of texts to find supporting evidence. Based on knowledge of the discipline and how students progress in their learning, as well as understanding of specific students, the teacher of this lesson may anticipate a few ways in which students may get stuck. The teacher may be looking for students who suggest evidence that does support the claim or who generate ideas about one type of evidence only. Either of these approaches may constrain a student from finding a variety of textual evidence that could support the claim, so timely, in-process feedback could allow the student to shift their thinking and be better positioned to achieve the success criteria (WestEd, 2020a).

Activating prior knowledge at the beginning of a mathematics lesson can help to identify students’ conceptual understanding or elicit misconceptions students may have to clarify for teachers as to where to begin the lesson. It also can help students make connections between what they know and what they are learning and engage them in thinking about the learning
goal. In science, the teacher may be looking for students who are unable to identify more than one property of the materials presented or who are able to identify only the simplest properties (e.g., color, shape). Either of these may limit a student from making the observations and measurements that could allow them to extend their ability to investigate. Activating prior knowledge helps to make student thinking visible early enough in the lesson so that teachers can clarify misconceptions or add on to current student understanding (Wiliam, 2018).

Eliciting evidence through questioning allows the social studies teacher to elicit and explore student thinking. Using the evidence gathering strategy of questioning at the beginning of a lesson may help teachers discover that students have little prior knowledge of the Civil Rights movement itself. Students with some knowledge of the Civil Rights movement might assume that there was a single strategy for improving equality to which all Civil Rights leaders agreed. Teachers could support students at this point in the lesson by guiding them to recognize and consider multiple perspectives. Then, as students examine primary sources throughout the lesson, continue to ask questions that compel students to analyze how each new perspective reflects the context and priorities of the historical individual (WestEd, 2020a).

**Questioning** also can reinforce a classroom culture that encourages learning and risk taking and supports students in their learning. In preparation for using this strategy, teachers should plan some of their questions in advance and then be ready to follow up based on student responses, thus encouraging a conversation. Teachers should keep in mind the research on effective questioning, such as wait time, questions that encourage higher level thinking and pre-thinking strategies appropriate for the grade-level (such as pair/share). The beginning of a lesson is also an opportunity to gather and evaluate evidence of students’ use of the inquiry process. Using the inquiry process throughout the lesson will guide students to think like a historian so that they make comparisons, apply reasoning, evaluate sources, interpret and synthesize evidence, and craft well-supported arguments (Wiliam, 2018).

Table 3.13: Example Evidence Gathering Strategies - Start of Lessons

<table>
<thead>
<tr>
<th>Discipline/Content</th>
<th>Evidence Gathering Strategy</th>
<th>Potential Issues Impeding Student Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading &amp; Writing</td>
<td><strong>Disciplinary Discourse:</strong> In small groups students discuss what type of textual evidence would be relevant to support the claim.</td>
<td>• Suggesting evidence that is not relevant or does not strongly support the claim.</td>
</tr>
</tbody>
</table>
Discipline/Content | Evidence Gathering Strategy | Potential Issues Impeding Student Understanding
--- | --- | ---
Mathematics | Activating Prior Knowledge: Practice counting skills as a whole class. | • Thinking narrowly about only one type of evidence. • Skipping a number in the counting sequence • Saying the number sequence out of order • Using incorrect words to name numbers
Science | Activating Prior Knowledge: In pairs, students make observations of a small set of materials to identify and name their properties. | • Able to identify only one property among multiple possibilities • Struggles to name properties • Only materials that are rigid are identified as solids
Social Studies | Questioning: In small groups, probe student ideas and misconceptions about a topic, including, but not limited to the presence of multiple perspectives. | • Lack of prior knowledge • All Civil Rights leaders agreed

**Middle of Lessons**

The same five evidence-gathering routines employed at the start of a lesson can be utilized throughout lessons as well to inform students and teachers about next steps in their learning. Teachers need to be mindful of the evidence they are planning to elicit at the beginning, middle and end of a lesson to adjust the strategies and tools they are planning to use throughout. For example, while some lessons may use the evidence-gathering strategy of questioning throughout an entire lesson, other lessons may switch between discourse and activating prior knowledge to ensure that the evidence that is collected is meaningful for students and teachers. Table 3.14 below provides some example strategies across disciplines and the potential student misconceptions that can arise. The following planned evidence-gathering
strategies, coupled with anticipated student responses in order to facilitate in-process feedback during teaching and learning, are just a few examples that can be used throughout lessons (WestEd, 2020a).

Throughout a reading and writing lesson, the teacher could circulate around the classroom to review individual student evidence and annotations and to ask probing questions to deepen and guide student thinking. Again, teachers can anticipate student responses based on their knowledge of the discipline and how students progress in their learning, as well as their understanding of specific students. Teachers can use that to support immediate feedback to help students move their learning forward toward the learning goals and success criteria. The teacher may be looking for students identifying textual evidence that doesn’t relate well to the claim, overreliance on a single source, misinterpretations of the evidence selected or not explaining how they would use the evidence in an explanatory or argumentative essay. By identifying these possible issues in advance, the teacher may be better equipped to take timely pedagogical action at this point in the lesson, adjusting and scaffolding the questions asked based on what they see and hear (Erkens, et al., 2017).

An evidence gathering strategy that can be used by the mathematics teacher in the middle of a lesson is questioning. Anticipating student responses, lesson planning should consider possible misconceptions or confusions students might have about the content embodied by the learning goals and success criteria that can surface as a result of teacher and peer questioning. Connecting this strategy to the kindergarten learning goal of counting objects put together in different ways, questioning might involve asking students to show various ways to count a set of buttons. This activity engages student understanding about whether the number of buttons changes based on which button the counting sequence starts. For additional supports around mathematical questioning, visit the Grade Level Samples found on the KDE’s Professional Learning Modules page for mathematics.

Eliciting evidence through questioning in science lessons allows the teacher to collect and explore student thinking. This strategy also can reinforce a classroom culture that encourages learning and risk taking and supports students in their learning. In preparation for using this strategy, teachers should plan some of their questions in advance and then be ready to follow up based on student responses, thus encouraging student discourse. The teacher may be looking for students struggling to describe measurements and observations that they could use to determine properties. Teachers also may notice limitations in discipline-specific vocabulary that keep students from being able to describe patterns, such as flexibility, texture or properties of mass and volume (WestEd, 2020a).
In social studies, as students investigate the disciplinary strand standards, teachers can ask probing questions to determine if their understanding is “emerging, partially formed, fragmentary, or at the point where it can be consolidated” (Heritage, et. al., 2020). By knowing whether students understand the different perspectives and strategies of the various Civil Rights leaders, for example, they can advance student learning by building on prior knowledge to reach new understandings. Scaffolded questioning supports students in reaching an understanding on their own, thus empowering students to become self-regulated learners. The middle of a lesson is an opportunity to evaluate student understanding of disciplinary practices around analyzing historical social studies sources through self and peer assessment. Teachers should consider if students can evaluate perspective, credibility, and bias in the sources and think about the questions they can ask and answer about this source to determine its credibility. Using the example strategy below (see Table 3.14) in this way helps students organize their arguments and makes their thinking visible (WestEd, 2020a).

Table 3.14: Example Evidence Gathering Strategies - Middle of Lessons

<table>
<thead>
<tr>
<th>Discipline/Content</th>
<th>Evidence Gathering Strategy</th>
<th>Potential Issues Impeding Student Understanding</th>
</tr>
</thead>
</table>
| Reading & Writing  | **Questioning:** Teacher circulates around the classroom reviewing individual student's evidence and annotations and asking questions to deepen and guide student thinking. | • Comprehension challenges  
• Evidence identified is not relevant to claim  
• Over reliance on a single text  
• Misinterpretation of the selected textual evidence  
• Annotations do not explain how to use evidence in essay |
| Mathematics        | **Questioning:** Ask students to show different ways to count the buttons. | • Thinking that the number of objects is related to the order in which objects are counted  
• Struggling to keep track of which objects have been counted |
| Science            | **Questioning:** As a class, students brainstorm strategies they could use to find | • Confusion about ways of describing the amount of substance |
End of Lessons
As students approach the end of a reading and writing lesson, students engage in peer and self-assessment by asking students to evaluate the quality of their own textual evidence and annotations and assess those of their peers. Teachers can support students to think critically about the textual evidence and annotations they provide so that they can consider and respond to any challenges or misconceptions themselves. In doing so, teachers could help students look for peers struggling to make a strong connection between the textual evidence and the claim, insufficient evidence to support the claim or not including evidence that can help them address the opposing claim (WestEd, 2020a).

Peer and self-assessment also can be used in mathematics at the end of a lesson. By anticipating student responses, lesson planning should consider possible misconceptions or confusions students might have about the content embodied by the learning goals and success criteria that can be surfaced during group work (Wiliam, 2018). Connecting this strategy to the kindergarten learning goal of counting objects put together in different ways could involve asking students to work together to count a given set of objects or create a set of objects of a given number. Students in each group could count a given set of objects silently, sharing out their counts as they model their counting processes. This allows others to see how a student arrived at the number of objects and to provide additional thinking when necessary. In the same way, each student in a group could make a set of objects given the number of objects and then compare their sets with each other, again modeling the understanding engaged and providing additional thinking when necessary (WestEd, 2020a).

As students approach the end of a science lesson, they can engage in peer and self-assessment by explaining the observations and patterns in properties they used to sort their materials with
their peers. Students could assess whether their peers’ material properties were sorted appropriately. Teachers can support students to think critically about their patterns and to extend their thinking while watching for students struggling to make the measurements and observations that can be used to make comparisons, find patterns in their observations or describe the patterns they used.

Communicating conclusions is the final step in the inquiry process. As students communicate their conclusions at the end of social studies lessons, they may be tempted to frame arguments in absolute terms (e.g., The Civil Rights movement was a failure.). When students think like a historian, they uncover the nuance and complexity of historical events. Probing, discipline-specific questions can help guide students to a more balanced view of historical events and eras (e.g., Was any legislation passed during this era that improved equality? What was the effect of the decision in Brown v. Board of Education?). As they engage in a discussion about their evidence, evaluate student disciplinary discourse to determine their level of understanding of the topic and their progress toward the success criteria. Students should be guided to consider the conclusions reached by other students. For example, they could be asked, “Can you restate what your classmate has said?”, “Do you think the evidence supports that conclusion?” or “Will you explain your reasoning?” Questioning and whole class reflections also can help students evaluate their own evidence-based conclusions in light of others’ feedback. Using the example strategy below (Table 3.15) in this way helps students anchor their discussions in student-found evidence and makes their thinking visible (WestEd, 2020a).

Table 3.15: Example Evidence Gathering Strategies - End of Lessons

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Evidence Gathering Strategy</th>
<th>Potential Issues Impeding Student Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading &amp; Writing</td>
<td>Peer and Self-Assessment: Partners practice linking annotated evidence to the claim by providing reasoning.</td>
<td>• Issues connecting evidence to claim</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Not identifying enough evidence to fully support the claim</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Not identifying evidence that can address opposing claims</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Peer and Self-Assessment: Students work together to count items and make groups as requested.</td>
<td>• Counting an object more than once</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Thinking that rearranging the objects might change the number of objects</td>
</tr>
</tbody>
</table>
## Discipline Evidence Gathering Strategy

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Evidence Gathering Strategy</th>
<th>Potential Issues Impeding Student Understanding</th>
</tr>
</thead>
</table>
| Science          | Peer and Self-Assessment: Students sort new materials into groups and explain the patterns in properties they used to a peer group. | • Patterns limited to only easily observable properties rather than including less obvious patterns in properties (e.g., uses of the materials, strength, flexibility, texture)  
• May leave some materials out of the groups |
| Social Studies   | Disciplinary Discourse: As a class, engage in meaningful discussions and democratic discourse that respects diverse opinions. | • There are absolutes in history.                                                                                 |

### Strategies and Tools for Interpreting Evidence

In addition to anticipating common student responses, teachers can employ a variety of strategies to support them to interpret evidence of student learning in ways that facilitate effective pedagogical responses during the learning. Interpretation strategies should be anchored and aligned to both the stated learning goals and success criteria, as well as to the type of evidence needed to demonstrate student mastery. Additionally, strategies should reflect how they will be used. Teachers need different tools and strategies to analyze and respond to student learning and students need them to make sense of their own learning and the learning of their peers. While much of this interpretation happens “on the fly,” as mentioned previously, educators must anticipate student thinking as part of their planning process. A few questions teachers need to consider include (WestEd, 2020a):

- What questions might unlock student thinking?
- What whole-class discussion might need to happen and with what focus?
- Are examples and artifacts of student work needed?

**Teacher-facing strategies** and tools can help teachers focus their attention on key learning in a lesson by tracking their observations and marking which success criteria students have met. One strategy that teachers could use to track student progress can be as simple as a checklist (e.g., on a clipboard or electronic tablet), such as the one seen below in Table 3.16. In this reading and writing example, the teacher is circulating among students as they discuss relevant evidence in a passage to support the claim. While overhearing conversations and through direct
questioning, the teacher can note students who are able to both identify evidence and then connect that evidence to a claim. They are also then able to keep track of who is getting stuck and establish small groups for those students struggling on specific concepts. Regardless of the discipline, column headers are tied to the success criteria the teacher lays out at the beginning of the lesson, so check marks and notes can show progress toward meeting those criteria (WestEd, 2020a).

Table 3.16: Example Teacher-Facing Strategy

<table>
<thead>
<tr>
<th>Student</th>
<th>Can identify relevant evidence</th>
<th>Connects their evidence to claim</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juan</td>
<td>✔</td>
<td>✔</td>
<td>Relying on only one source, redirect to another text</td>
</tr>
<tr>
<td>Hannah</td>
<td>✔</td>
<td>-</td>
<td>Focusing on topic, not argument</td>
</tr>
<tr>
<td>Cinda</td>
<td>✔</td>
<td>✔</td>
<td>Effectively connecting evidence to claim verbally, struggling in writing</td>
</tr>
<tr>
<td>Min</td>
<td>-</td>
<td>-</td>
<td>Comprehension challenge, provide alternative text sources and individual support</td>
</tr>
<tr>
<td>Jackson</td>
<td>✔</td>
<td>✔</td>
<td>Good example of refuting opposing evidence - share with class</td>
</tr>
</tbody>
</table>

**Peer-Assessment Strategies**

**Student-facing strategies** are used by students. They provide the language and structure to assist students in making sense of their learning and the learning of their peers. When students are self-assessing, a pre-planned set of questions related to the success criteria help students gauge their own understandings. When students are assessing their peers, a pre-planned set of questions related to the success criteria help students gauge their peers’ demonstrated understanding. Teachers should clearly communicate the purpose of the questions and how they connect to the success criteria for the lesson. When teachers can co-construct assessment criteria with students, the relevance of the questions is made clear for students. With young children, this activity can be simplified to drawing a face that communicates how they feel about what they know and can do in relation to the success criteria.
Table 3.17 below is an example of a student-facing tool that could support students to effectively engage in this activity in ways that help them move their learning forward. Each student could work with their peers to answer the questions about their own work. This is an example of a more scaffolded strategy to support students’ emerging skills at peer and self-assessment. Here you see that the student demonstrated that they did three criteria well and needed to improve on one. The goal of tools like these is not just to manage the specific activity, but to help students develop skills that will allow them to independently assess and manage their own learning (Erkens, et al., 2017).

Table 3.17: Example Student-Facing Strategy

<table>
<thead>
<tr>
<th>My Evidence</th>
<th>What I did well</th>
<th>What I can improve</th>
</tr>
</thead>
<tbody>
<tr>
<td>My evidence is convincing.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>I can explain how my evidence supports the claim.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>My evidence offers more than one argument to support the claim.</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>My evidence responds to the counterargument to the claim.</td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

**Self-Assessment Strategy: Prompts**

Teachers also can take advantage of strategies which encourage students to self-assess their learning. Teachers and students can use a prompt to co-construct and engage students in thinking about their own learning as they engage in the lesson. Prompts are an example of a less scaffolded strategy to support peer and self-assessment. For example, in reading and writing, teachers could use the prompt, “How do I know that the evidence I have chosen supports the claim?” Students and teachers can work together to develop the specific criteria they will use to evaluate their work (prompt responses). Students and teachers should consider the following questions as they begin to co-construct evaluation criteria (WestEd, 2020a):

- How will students know they are successful?
- Why are they successful?
- What are they getting stuck on or need more practice with?

Prompt responses may be written down for the teacher to collect as evidence or they may be used as paired or group discussions that students engage in with their peers. For more
discipline-specific resources on interpretation strategies and prompts, consider reviewing the KDE’s Interpreting Evidence Module 5.

Acting on Evidence of Student Learning

Regardless of the assessment type or purpose, acting on evidence of student learning is probably the most important, and all too frequently overlooked, element of the assessment cycle. Acting on evidence of student learning helps to answer the third question in the assessment cycle of “Where to next?” (See figure 3.18 below) because teachers and students have opportunities to receive feedback. Both students and teachers benefit from continually acting on meaningful evidence of student learning because, without this crucial step in the assessment cycle, students and teachers cannot effectively determine where they are headed. Students need this information to determine if they are successful and adjust their learning tactics, and teachers need to know if the classroom instructional practices they are utilizing have a positive impact on student learning (Popham, 2010).

Assessment Purpose and Grain Size

According to Dylan Wiliam in Embedded Formative Assessment (2018), how an assessment is used or functions determines whether the assessment is deemed formative or summative. The action taken by the teacher should be contingent upon the purpose of the assessment tool or strategy and should reflect the student learning goals and progressions. In a summative assessment context, where the learning goal includes a culmination of standards and comes at the end of a learning period, the evidence usually informs teacher or leaders’ actions related to district policy, programs or practice decisions (e.g., investments in culturally responsive teacher professional learning, design of a support strategy to ensure intervention implementation fidelity or making future adjustments to the curriculum). In interim assessment, where the learning expectations include a smaller group of standards, the evidence usually informs actions toward future instruction (i.e., revising upcoming instruction to address gaps or identifying students in need of additional enrichments or interventions). Formative assessment is ultimately about using the evidence elicited to answer the question, “Where to next?” so that students can move toward their learning goals. When we consider the formative assessment process where the learning expectations are narrowly focused on a smaller grain size of the standards, evidence should inform action about the day-to-day moves that students and teachers make in the classroom to move students along their learning progression (WestEd, 2020). With formative assessment, these actions should occur more frequently as data is collected by students, peers and teachers more often. By providing students with specific, timely feedback in an ongoing and regular assessment cycle, we give students the tools they need to accelerate towards their learning goals more quickly. When students are making
progress towards their learning goals, often the formative data collected supports teachers in determining that the best course of action is staying the course and continuing with the pedagogical strategies they are currently using, while a lack of progress suggests an immediate change in the course of action is needed (Wiliam, 2018).

As illustrated in the assessment cycle in figure 3.18 below, the dashed line that connects “act on evidence” to “elicit evidence of learning” reflects the repetitive, cyclical nature of the formative assessment process. Using meaningful evidence of student learning aligned to the learning goals and success criteria, informs pedagogical action and empowers students to manage their own learning. After taking pedagogical action, it is important to elicit further evidence to determine if the action chosen successfully moved student learning forward and to inform what comes next in helping students move along their learning progression.

Figure 3.18: The Assessment Cycle

Taking Pedagogical Action

In the formative assessment process, students and teachers interpret meaningful evidence of student learning to get a clear picture of the current status of learning in relationship to the learning goals and success criteria. This interpretation is then used to make decisions regarding the pedagogical actions that should be embedded in student learning. Dylan Wiliam (2018) states that one of the most difficult aspects for teachers transitioning to formative assessment is giving up old instructional practices, while replacing them with new ones that will have a
greater impact on student learning. In the transition, teachers often add new assessment practices (sometimes with good intentions) without taking away old ones. For instance, they may add a variety of formative checks or self-assessment tasks but continue to give the old unit tests that have been around for years. In this example, the teacher must evaluate both the tests and results from the student formative tasks. Nothing was taken away and removing the tasks that had less impact on student learning would be best here. Being responsive to this evidence by removing what is not working demonstrates that the teacher has a detailed knowledge of students’ current level of understanding in relation to their progression of learning (RIDE, 2021). The section that follows will take a closer look at the variety of forms pedagogical action may take.

**Pedagogical Action #1: Telling**

Telling is a pedagogical strategy teachers can use to supply what students need at the moment (i.e., an unknown word or steps for task completion) to enable them to maintain momentum in the learning process. This instructional strategy requires teachers to make professional judgments by removing barriers to learning so that students do not become unnecessarily frustrated. Telling should only be used when students are stuck to keep student learning moving forward; it should not eliminate productive struggle or prevent students from increasing the complexity of their thinking. Some discipline-specific examples of telling include:

- **In Reading and Writing:** Telling students an unknown phoneme or sight word when decoding words could be an effective strategy to keep students engaged in learning and moving forward when the told word or sound does not interfere with the overall learning goal(s).

- **In Mathematics:** Selective telling can help to move learning forward by providing useful terminology, ways of representing mathematical ideas or counterexamples to student conjectures to keep students engaged in learning and moving forward toward their learning goals. For example, consider a classroom discussion focused on incorrect mathematical reasoning (e.g., counting the tick marks on a number line instead of the spaces between the tick marks). Inserting statements to challenge the reasoning can help to shift student thinking away from incorrect conceptualizations towards correct conceptual understanding.

- **In Science:** Telling students who are confused, “The rats eat seeds and fruits, but they also eat insects and crawfish.”

- **In Social Studies:** Telling can level the playing field, removing temporary obstacles on the way to deeper learning. For example, telling students the meanings of unfamiliar words like “manumission” or “usufruct” in Thomas Jefferson’s letters may eliminate some of the frustrations that students can experience with historical texts.
Pedagogical Action #2: Directing

In her book *Literacy Lessons Designed for Individuals* (2016), author and researcher Marie Clay discusses how students often need clear and explicit language (e.g., “Do this. Don’t do that.”) to know exactly what teachers want and expect from them. This specific verbal instruction is a strategy referred to as directing. When teachers use directing, they are giving a specific instruction to let the learner know what he or she is supposed to do. Some examples might include:

- “Find the sentence or passage in the text that suggests…”
- “Write the letter for the sound…”
- “Turn to your partner and share…”
- “Point to the number…”

Directing can be used across disciplines to increase the level of clarity with students, particularly when providing teacher-to-student and peer feedback. A few examples of content-specific directing include (WestEd, 2020a):

- **In Reading and Writing:** Teachers may use directing as a strategy when facilitating a peer review of student written essays.
- **In Mathematics:** Teachers might use directing as a strategy when students struggle to read provided directions (e.g., a kindergarten activity involving sorting shapes) or to guide specific classroom actions (e.g., solve the problem on your own, then discuss with your neighbor).
- **In Science:** Teachers may use directing as a strategy when all students should follow the same process such as, “Draw and label all parts of your model.”
- **In Social Studies:** A teacher may use directing as a strategy when describing steps in an assignment. For example, “Identify two reasons given by Richard Hakluyt for supporting English colonization of the New World.”

Pedagogical Action #3: Explaining

Explanations are verbally explicit directions tailored to individual student needs and intended to help students develop their own understandings. While explanations are similar in nature to directing, teachers may use explanations to introduce an unfamiliar concept, clear up misconceptions, explain a process or clarify the steps of a specific learning strategy, such as taking notes. Explaining is focused on helping students develop their own understandings so they can apply them to their learning. Explanations are often paired with pedagogical action #5, modeling, since demonstrating a skill or process often requires teachers to explain steps or think-aloud. Some discipline-specific examples of explaining include (WestEd, 2020a):
• **In Reading and Writing**: The teacher may use a model text to help explain how onomatopoeia or another literary device works.

• **In Mathematics**: For example, not all concepts can be deeply understood through discovery alone. Explanations are often needed for mathematical procedures or to justify the need for differentiating between mathematical representations (Mathematical procedures such as writing ordered pairs as \((x, y)\); determining the value of an expression using order of operations; and formal terminology for mathematical representations).

• **In Science**: For example, a teacher who observes a student struggling to make sense of a phenomenon may need to explain part of a core idea by saying, “Striped fur may be an advantage in an environment with lots of plants, but it might be a disadvantage in another with bare soil. That’s one way geographical location can lead to speciation. Can you think of any others?”

• **In Social Studies**: For example, a teacher who encounters confusion about the relationship between political parties in the Civil War era and political parties in the modern era could briefly explain how and why the Democratic and Republican parties changed over time.

**Pedagogical Action #4: Prompting**

Prompting can help students access and apply prior learning as a bridge to new learning and moves beyond surface level understanding because it often forces students to apply what they have learned previously to a new learning situation (Fisher, et al., 2021). Prompting may take the form of a reminder, a strong hint, a clue or question and should always be followed by adequate wait time. Prompting is most effective when the teacher has a clear picture of where individual students are along a learning progression in order to formulate a prompt that will successfully bridge to new learning (e.g., moving students up to the next stage along their learning progression). Some discipline-specific examples of how teachers might utilize prompting in their classrooms include (WestEd, 2020a):

• **In Reading and Writing**: Prompting could be used when students are working to decode challenging text and the teacher is attempting to get the student to reread the text and monitor for meaning.

• **In Mathematics**: Prompting is an excellent strategy when helping students build connections between new content and previously learned content or for providing differentiation in feedback to students. For example, when solving a multi-digit addition problem, a teacher might ask a student struggling with the computation to solve a problem using numbers with fewer digits and then connect that solution process to the original problem.
• **In Science:** Prompting is an excellent strategy when students are making sense of a phenomenon and need a reminder of previously learned content to make a connection to improve understanding or skills. For example, a teacher may ask a struggling student to explain how energy flows within an ecosystem to think of the way energy flows in a simple food chain (e.g., sun to producer to consumer) and then connect that mental model to the food web of the larger ecosystem.

• **In Social Studies:** Prompting is an excellent strategy when students need a reminder of previously learned content in order to make a connection, to help students get to the next stage of learning with a question or to highlight information so students can synthesize the information to draw a conclusion.

**Pedagogical Action #5: Modeling**

Modeling is a deliberate and purposeful instructional strategy in which the teacher demonstrates a new concept or approach to learning and students learn by observing. Modeling describes the process whereby students learn or acquire new information, skills or behaviors through observation, rather than through trial-and-error or student practice. Deliberate, purposeful modeling is a powerful instructional strategy, which makes learning visible by verbalizing the teacher’s reasoning out loud, explicitly narrating thinking during a problem-solving process as they demonstrate a specific skill. Many initial metacognitive and self-regulatory skills needed for students to be successful as learners begin at a young age through observation and modeling (Salisu, 2014).

Modeling often involves a gradual transfer of responsibility from teacher to student as students become familiar with the concepts, skills or behaviors being demonstrated. This gradual transfer of responsibility is often referred to as the Gradual Release of Responsibility Model (GRR) and purposefully shifts the cognitive load from the teacher as a model to the joint responsibility of teacher and learner; whereby at the end of the process, students are ultimately able to independently practice and apply what they have learned (Pearson & Gallagher, 1983).

Some examples of modeling used in the classroom across disciplines include (WestEd, 2020a):

• **In Reading and Writing:** Modeling can be used when asking students to incorporate prosody (expression) in their voice as they are reading. Teachers can first model what that sounds like before asking students to practice reading with expression on their own.

• **In Mathematics:** Modeling can be used to demonstrate various strategies for solving a problem to show multiple representations or strategies to solve a problem. This gives
the teacher opportunities to facilitate conversations with students to develop an understanding of efficient problem solving and classroom norms related to responding to the thinking of others. (Note: This type of modeling is not referencing the Mathematical Modeling Cycle outlined in the KAS, but is speaking to how teachers might demonstrate an instructional strategy in a deliberate and purposeful way).

- **In Science:** Similar to how the practice of modeling in science can help a person “see” an unseen cause to help explain a phenomenon, the strategy of modeling as a pedagogical action is used to help make scientific and engineering thinking and strategies visible to students. For example, when a student is struggling with how to use evidence to make and support a claim, a teacher could model the thought processes used to reason through or analyze data aloud. The teacher can talk through how different pieces of evidence support or do not support a particular claim and how data can help formulate or revise a claim.

- **In Social Studies:** Modeling is an excellent way to make disciplinary strategies visible. For example, a teacher may ask a struggling student to explain economic interdependence and then connect that definition to understanding why countries depend on each other to produce products.

**Pedagogical Action #6: Questioning**

Asking questions is an ideal way to develop students’ understanding through discussion and exploration. Well-designed questions can allow students to uncover answers for themselves about their own learning and can help scaffold students to deeper understandings. When teachers probe answers with follow-up questions, they can yield information that can support evaluation of current understanding and identification of appropriate next steps.

Based on the level of cognitive demand required to answer them, questions are typically classified by levels. Perhaps the most widely known system for categorizing the cognitive level of questions is Bloom’s taxonomy (1956), in which the six levels of cognitive demand move from low to high orders of processes. Lower-order questions ask students to recall and comprehend material that was previously read or taught by the teacher while higher-order questions ask students to apply information previously learned to create or support an answer with logically reasoned evidence. Both higher- and lower-order questions are useful and have their place in the teaching-learning process depending on the purposes they serve (Corley, 2013).

Some examples of questioning used in the classroom across disciplines include:
• **In Reading and Writing:** Questioning is a strategy that supports students in their comprehension and can be used to scaffold students to more complex levels of thinking. Students can self-question as they read to think deeper about the text. Teachers can question students to evaluate if students are making meaning from what they are reading.

• **In Mathematics:** The development of meaningful questions should be part of the planning process as teachers think about the ways in which students are likely to engage with the content and the places where concerted questioning might help guide student learning. Questions should be open-ended, allowing for a range of responses, with the potential to stimulate additional student conversation and collaboration.

• **In Science:** Questioning is a strategy that supports educators in eliciting targeted evidence of student understanding in order to adjust instruction in real time. Meaningful questions should be developed as part of the planning process and be designed to empower students to reflect on their own knowledge, skills and abilities to make sense of the world around them.

• **In Social Studies:** Questioning could be used in social studies to encourage students to view historical texts or documents from varying perspectives they may not otherwise have considered on their own (WestEd, 2020a).

**Pedagogical Action #7: Feedback**

From John Hattie’s research (2012) we see that feedback yields an effect size of 0.70, which is equivalent to almost two years’ worth of growth in one year’s time; feedback is one of the most impactful pedagogical strategies a teacher can employ in the classroom when done effectively. According to Hattie (2012), feedback’s primary purpose is to feed-forward learning by equipping the receiver to act. However, when we unpack the purpose of feedback, we see that feedback requires an action, event or process - a person’s performance. In classrooms, teachers must provide students with opportunities to respond for feedback to even be possible.

Because feedback is used as a means for continuous improvement, timely, specific and constructive feedback is needed to enable students to reflect on their use of strategies during learning and determine which strategies were helpful and which hindered their progress. By giving and receiving effective feedback on and for learning collaboratively with the teacher, students are better equipped to answer the three questions for effective feedback: Where am I going?, How am I going (or doing)? and Where to next? Providing feedback that gives hints, cues or suggestions rather than total solutions will assist students to build a repertoire of learning strategies as they become more metacognitive, self-regulated thinkers (Almarode, et al., 2019).
Both teacher-directed and student feedback is a central element of the formative assessment process. Below are some examples of how feedback could be used in content-specific areas:

- **In Reading and Writing:** Students may provide each other with peer feedback on an opinion/argument piece by looking for specific evidence used to support a claim. For example, “I see in your essay that you disagree with offering peanut products in our school cafeteria. You discussed several examples of those peanut-based foods, but I’m not seeing where you gave specific reasons for why serving them in our school is a bad idea.”

- **In Mathematics:** Some examples of mathematics teacher-provided feedback are:
  - “I see that you determined the answer to the problem, but the reasoning doesn’t help me understand your thinking. Can you tell me about your thinking to help you think about words that might help others understand?”
  - “I see that you wrote an expression that models the situation. Is there a different expression that could also be written? What must be true about a different expression and the expression you wrote for them to model the same situation?”
  - “I see that you and your partner have the same answer, but the way that you found the answer is different. Work with your partner to determine how two different ways might be used to find the answer.”

- **In Science:** Teachers should consider wording feedback so that it allows students to reflect on their own skills and knowledge as they reconsider, revise or enhance their ideas. For example, a student has developed a model of the water cycle using marbles to represent the water molecules. The model was supposed to be used to explain what causes movement of water through the water cycle but falls short. Feedback could be provided in the form of a question, prompting the student to reconsider a part of their model. “I like how you used the marbles to represent water molecules, but could you use this model to explain what causes the water molecules to rise up into the air or why they are pulled back down to the surface?”

- **In Social Studies:** One example of actionable teacher feedback could include comments such as, “This quotation works well because it describes Rosa Park’s background in her own words, showing that her involvement in the bus boycott was not a momentary whim.”

Reflecting on Pedagogical Action

As in assessment types, pedagogical strategies are not a one-size-fits-all. While the seven actions just discussed can be applied to most all classrooms, regardless of age level or content area, teachers need to be prepared to adjust feedback to meet the needs of specific learners.
When considering the different pedagogical strategies discussed above, teachers may want to reflect on the following guiding questions in the context of their own practice (Almarode, et al., 2019; WestEd, 2020a):

- Which strategies do I rely on most?
- Which strategies should I try to engage in more, and why?
- How do I decide which strategy to use in specific instances?
- Which strategies are well-suited to the content and the students I teach?
- What challenges do I find with any of these strategies? How might I overcome those challenges?
- Which learning tasks are well-suited for feedback from the teacher, self or peers?
- Have I modeled the success criteria for students using examples, models or exemplars?
- What structures have I modeled for students to provide one another with feedback?
- Have I provided students with multiple opportunities to practice giving and receiving feedback?
- What opportunities have I provided to gradually release responsibility away from me to my students? How and where might I intentionally embed more?
- How have I engaged in these different pedagogical actions in a remote, hybrid or face-to-face learning setting?
- Which of these pedagogical actions are well-suited for a remote learning context and which are more challenging?
- How might I adapt these actions for use in the remote, hybrid, or face-to-face learning environment?

Taking Action in Professional Learning Communities

As mentioned in the previous section of this framework, in order to make meaningful decisions about their instructional practices, many educators participate in professional learning communities (PLCs). Teachers and school leaders who effectively engage in the PLC process take time to develop common formative assessments, collect student data from those assessments and even collectively work to examine student evidence (Bailey & Jakicic, 2012). However, for many teachers, taking the time to respond and act on the evidence of student learning is often a step that teachers often fail to prioritize amidst all of their other professional responsibilities. Teams need time to respond to the evidence they collect in order to make the responsive changes necessary to improve teaching and learning. This involves intentionally setting time aside for teachers to analyze, plan and prepare. PLCs provide this embedded time and structure within the school week for teachers and leaders to collaboratively identify common learning goals, develop assessments linked to those goals, conduct the assessments across student subgroups and process the results together to determine next steps. By
analyzing the evidence collected from multiple common assessments, teachers learn how they can improve their instruction and have a clear picture of which pedagogical actions worked well (and which did not) for individuals or groups of students. This analysis lays the groundwork for teachers to make intentional decisions about the strategies they will employ in future lessons to continuously improve their practice (Chappuis, et al., 2017).

While common formative assessments provide teams with important information to plan for future learning opportunities on a weekly basis, teachers need to gather evidence from a variety of sources to formatively assess where students are for their day-to-day, minute-by-minute decisions in the classroom. As Mattos, et al. (2016) caution, “relying on any one type, method, model, or format of assessment would be a seriously flawed assessment strategy.” Because assessment of a student’s work should provide an array of information on progress and achievement, the challenge becomes how teachers “match appropriate assessment strategies to curricular goals and instructional methodologies” (p. 104).

One critical element in this planning is integrating strategies to gather evidence of student learning during the learning, and then having the essential tools and strategies at your fingertips to interpret and act on that evidence (WestEd, 2020). When teachers begin to see that students are making progress as a result of the pedagogical actions they are taking in their classrooms and the strategic decisions made within PLCs, they are more apt to believe that all students can learn (Bailey & Jakicic, 2012) and begin to see value in the formative assessment process.

Four Characteristics of Effective Feedback

In the formative assessment process, feedback is designed to empower students to make decisions about where to go next in their progress toward their learning goals. This requires thoughtful feedback that:

1. Relates to the student learning goals and success criteria;
2. Is actionable for the student;
3. Is specific to the learner; and
4. Helps students manage their own progress towards learning goals.

Characteristic #1: Related to Learning Goals and Success Criteria

The primary purpose of feedback in the formative assessment process is about communicating to students where they are in their learning relative to where they are going. In order to engage fully in applying feedback to their learning, students must have a clear understanding of their learning goals and success criteria. Effective feedback also requires the teacher to have a strong understanding of the learning pathway that leads students toward the learning goals and success criteria so that they can offer feedback that clarifies next steps in learning for the
students. For teachers and students to clearly see progress towards the learning goals and success criteria, every opportunity to respond offered to students should make their thinking visible (Almarode, et al., 2019).

**Characteristic #2: Actionable**

Feedback is effective if it creates a shift in student thinking that allows students to move their own learning forward. Feedback helps students and teachers take action by helping to answer the question of Where do I go next? Once the learning goals and success criteria have been identified, feedback is like the voice on a GPS (global-positioning system) or mapping program reminding one of when to proceed, turn around, stop or recalculate. When students are making intended or better-than-intended progress in moving towards their learning goals, they need to proceed or continue with the learning tactics they currently have in place. When feedback indicates that students are not making progress, it is often necessary for students to stop, turnaround or recalculate by trying new methodologies and strategies to reach their intended goals. Feedback is actionable when it can clarify for the student where their learning is in relation to the learning goal, help to communicate strengths or next steps and is followed by time for supported reflection (p.141).

Feedback should focus on what students are doing well and how they can improve. It is most actionable when students can apply it not only to their current learning, but also to develop an understanding of how to transfer it to new contexts as well. Providing clear, descriptive language (i.e., through think alouds, directing or explaining) can signal to students where they currently are in their learning and what they can do to make progress toward their learning goals. Students need time and structures during their learning to process feedback, ask clarifying questions and plan for next steps in their learning. Without structured opportunities to make sense of feedback and translate it to their learning, feedback will not support students in meeting their learning goals (WestEd, 2020a).

**Characteristic #3: Specific to the Learner**

Much like pedagogical strategies, there is no one-size-fits-all approach when it comes to feedback. Because students are in different places in their learning, they bring various strengths, needs and experiences. All learners bring their own unique learning and communication styles to the classroom. Effective feedback considers each of these needs and what will help students make the most progress along their learning journey (Almarode, et al., 2019). Feedback is more apt to improve students' performance when it is focused on what needs to be done to improve, and specifically when teachers give students details about how to improve (Wiliam, 2018). Planning for and providing specific, constructive feedback can only be achieved when teachers know their students well and where they fall along a progression of
learning. This highly effective feedback takes into account the learning needs of the individual student and considers (WestEd, 2020a):

- What prior knowledge, personal experience, language and cultural strengths does this student have that can serve as a bridge to my feedback?
- How can I offer feedback in ways that will keep this student motivated?
- What volume of feedback will this student be best able to process and apply?
- What specific feedback do I need to offer this student currently and how does it align with the learning goals and success criteria?
- How will I know if my feedback makes sense to the student?

**Characteristic #4: Feedback Should Help Students Manage Their Own Learning**

Dylan Wiliam (2018) states that “feedback functions formatively only if the learner uses the information fed back to him or her to improve performance.” Feedback should draw students’ attention to what’s next rather than what was done correctly or incorrectly. Unfortunately, this rarely happens in classrooms, and students view feedback as punishment rather than a valuable tool of formative assessment. Because students often equate more written annotations on learning tasks from teachers as poorer performance, teachers need to be mindful of not only the quality of feedback they give, but the quantity of feedback as well. In general, feedback should be more work for the recipient than the donor (Wiliam, 2018).

Feedback is effective when it helps students build their own capacity as self-directed learners. This involves helping students understand what they did well so they can apply those understandings to new contexts in a way that does not do the work for students, but rather helps them clarify where they are in their own learning and develop an individual course of action for moving forward. When students share evidence of their learning that shows they are on track, they still need descriptive information to understand what they are doing well so that they can build on that success. Telling students things like, “good job” or “I love this paragraph” does not position them to understand what they did well and apply feedback to new contexts in the future (WestEd, 2020a).

Students' voices should be used to evaluate the effectiveness of and make improvements to feedback. Teachers need feedback from students as do students from their teachers. Questions like, “Are you clear on what you need to do next?” or “Can you tell me what you are going to do next?” can help teachers determine if the feedback given was effective, and if not, make adjustments to their feedback practices. This recurring structure, often referred to as a feedback loop, can inform the teacher’s overall practice, helping develop a sense of the kind of feedback that is most effective for specific students and the class as a whole (p. 141).
Applying Feedback Through Student Goal Setting

Regarding student goal setting, Hattie and Donoghue (2016) note that “progress breeds progress,” and “success breeds a desire for more success.” When students are engaged in regular self-reflective conversations around the progress they are making toward accomplishing success criteria, they are more apt to develop self-efficacy as learners and be motivated to continue learning. Teachers should be mindful to intentionally embed structures within their classroom schedules for students to self-reflect, conference with peers and conference with the teacher. As teachers model and students practice using the success criteria to provide effective feedback, students learn how to initiate setting goals for themselves with greater independence. In turn, this creates an upward spiral for learners that is crucial for continuous improvement and success (Almarode, et al., 2019).

While feedback can be applied in several ways throughout the formative assessment process, when students understand the success criteria they have successfully met and which ones they need to address next, they are better able to prioritize and set personal learning goals for themselves. As learning deepens, students and teachers can revise the success criteria and goals over time (through co-construction), and students begin to feel empowered with the knowledge of what success looks like. Once this self-regulation unfolds, students are better equipped to manage and self-assess their own progress moving forward (p. 82).

Though not a frequently used term in education, ipsative assessments are assessments used to compare a student’s present level of performance to their past performance. Teachers often use ipsative assessments to analyze initial and final assessment data to determine instructional impact. Other educators may use ipsative assessments to measure student growth over time. For students, ipsative assessments provide opportunities to gain insight into individual progress and challenges, helpful information for students to reflect upon for setting goals and acting for themselves. One example of an ipsative assessment is a goal-setting conference (Fisher, et al., 2021).

Goal-setting conferences provide structured opportunities for students to reflect on their intended goals, the tactical learning strategies employed throughout a lesson or group of lessons, the effort students put forth and the outcomes they receive from those decisions (Wiliam, 2018; Fisher, et al., 2021). Goal-setting conferences typically occur between a student and their teacher although students may participate in conferences with their peers as they become more empowered to give and receive effective feedback. Because clear goal intentions have the potential to accelerate student learning (as they have an effect size of 0.51), students need to have ownership over their own goals so that the goals motivate them to improve
(Fisher, et al., 2021; Hattie, 2009). For the goals to motivate students, they should (Nordengren, 2019):

- Build competence;
- Provide students with choice and autonomy;
- Align with students’ interests; and
- Change how students perceive themselves.

Teachers should steer students away from goals that are performance-based (i.e., “I want to get all 4s on my opinion writing rubric.”) and toward more mastery-driven goals (i.e., “I want my introductory paragraph to be clear to the reader and entice them to read more.”). When developing goals collaboratively, teachers should direct students to create goals that are measurable and attainable. These goals should focus on what students will do as a result of the feedback received and should be attainable enough for students to experience success more regularly since “success breeds (more) success.” Through ongoing goal-setting conferences teachers can scaffold students to design short-term goals, which accumulate to help students master their long-term goals (Fisher, et al., 2021). As students meet their goals and move toward mastery of the standards, they should be positioned to navigate and see the full learning pathway before them. Students should be able to reflect on their accomplishments, and teachers should use goal-setting conferences as a platform to celebrate student success in learning because, when they do, teachers draw attention to what is valuable and set benchmarks for other students to replicate (Erkens, et al., 2017).
References


## Appendix A

### Preparing for the Curriculum Development Process Toolkit

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| **Review SBDM Policy** | • Per [KRS 160.345](#), the school council shall adopt a policy to be implemented by the principal in regards to curriculum development | • Does the policy address:  
  o how the curriculum will be determined?  
  o how the curriculum will be developed?  
  o delegation of responsibilities?  
  o based on a needs assessment? | □ Ensure SBDM policy addresses key areas | • [KRS 160.345](#) |
| **Establish a Curriculum Review Cycle** | • Allow schools and districts to better manage curriculum work and the budget in a way that is not overwhelming | • To determine order of content areas in the curriculum cycle, utilize data from the most recent needs assessment. | □ Establish a Curriculum Review Cycle | • [Curriculum Review Cycle Template](#) |
| **Develop a Timeline** | • Develop a plan that includes the dates and actions for completing the work that can be communicated to stakeholders. | • What is the overall timeline for completing the curriculum development process from creating and convening the team to the point of implementing the curriculum in the school and/or district?  
  • What factors need to be considered that may impact the timeline?  
  • Based on the established timeline, how might the phases of the process be broken into manageable chunks that still ensures each step is included? | □ Create a Timeline for Completion of Curriculum Development Process | • [Sample Timeline](#)  
  • [Timeline for Curriculum Development Process Template](#) |
| **Determine Budget** | • Develop the budget for the scope of the work for the selected content area. | • What resources are needed to support professional learning for the curriculum team at the beginning of the process?  
  • Will funds be required to pay stipends or substitutes for members of the curriculum team?  
  • Will funds be used to purchase instructional resources to support implementation of revised curriculum?  
  • What resources are needed to support professional learning to build staff capacity of the curriculum? | □ Create a Budget for Curriculum Development Process | • [Curriculum Development Budget Template](#) |
## Phase 1: Planning and Professional Learning Toolkit

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| Create and Convene a Curriculum Development Committee | • Create a team of knowledgeable, committed members who gradually become the “experts” during the development process and throughout implementation of the curriculum | • Possible Team Members might include:  
  o Teacher Representatives from Various Schools and/or Grade Levels  
  o Instructional Coaches/Specialists  
  o School Administrators  
  o District Administrators  
  o Representatives from Special Education, Gifted and Talented, English Learners, and Media Specialists  
  • Possible Considerations When Selecting Team Members:  
    o Demonstrate a growth mind-set  
    o Able to inspire and influence colleagues  
    o Committed to supporting agreed-upon message  
  • Given the timeline for completion of the process and availability of team members, what are the logistics for the meetings/professional learning sessions? | □ Establish Content Area Curriculum Team  
□ Determine Meeting Dates, Times and Locations | • Curriculum Development Team Template  
• Meeting Schedule Template |
| Analyze Research to Develop Shared Understanding of Best-Practice | • Build an in-depth understanding of current evidence-based best practices necessary to help students meet the expectations of the standards and determine the implications for work in developing the school or district’s curriculum. | • What resources will be utilized to build the team’s understanding?  
  o Important Resources to Utilize  
    ▪ Writer’s Vision Statement and Design Considerations from the front matter of the KAS document  
    ▪ Foundational documents referenced in the Writer’s Vision Statement in the front matter of KAS document  
    ▪ Getting to Know the KAS Professional Learning Modules  
  • What content-specific resources from national organizations and educational experts in the respective area might be useful?  
  • How will the resources be utilized? What is the specific purpose of each? | □ Select Resources for Professional Learning and Determine the Purpose of Each  
□ Plan Professional Learning Sessions | • Selecting Professional Learning Resources Template  
• KAS Documents  
• Getting to Know the KAS Modules  
• Discussion Protocols |
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| Articulate a K-12 Program Philosophy | • Set the vision for teaching and learning in the content area and serves as an ongoing point of reference throughout implementation that drives decision-making around professional learning and resource development | • What are the school or district’s research-based foundational beliefs regarding teaching and learning in the specific content area?  
  • How do the foundational beliefs impact curriculum design, tier 1 instruction and assessment?  
  • How might a summary of the philosophy of teaching and learning in the specific content area be articulated in writing in a way that is clearly and easily understood by all stakeholders? | □ Generate Possible Foundational Belief Statements Based on Readings/Professional Learning  
□ Reach Group Consensus on Foundational Belief Statements  
□ Draft Sections of Articulated Philosophy Based on Foundational Beliefs  
□ Written Summary of Articulated Philosophy of Teaching and Learning for Specific Content Area | • Placemat Consensus  
• Jot Thoughts  
• Forced Choice Stickers  
• Rule of One-Third  
• Carousel Brainstorming  
• Big Paper: Building a Silent Conversation  
• Consensus  
• Articulated Philosophy Template  
• Sample Articulated Philosophy |
# Phase 2: Developing the Curriculum Toolkit

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| **Analyze Kentucky Academic Standards in the Specific Content Area** | • Develop a shared understanding of the big picture of the standards in order to gain clarity into how grade-level standards support the overall progression | • Using the progressions in the KAS document for the specific content area, how do the skills and knowledge progress from K-12?  
• How do specific grade-level standards support the overall progression? | □ Analyze K-12 Progressions for Content Area | • Kentucky Academic Standards Documents |
| **Create Curriculum Document Template** | • Create a curriculum document template that plans a coherent instructional experience within and across grade levels that systematically builds student understanding of the KAS and reflects the beliefs of the articulated philosophy. | • What major areas of support and practice need to be included in the template to help teaching and learning move toward the articulated philosophy?  
• How will the documents include enough detail to support teachers in the development of weekly plans and designing daily lessons? | □ Create a Curriculum Document Template | • Considerations for Creating a Curriculum Document |
| **Organize and Sequence Course Standards** | • Create units of instruction that addresses what standards are taught and when they are taught  
• Organize content standards around big ideas or questions to help deepen student understanding and engagement with the content in a more meaningful way | • How might standards be organized in a way that can deepen student understanding and engagement with content in a more meaningful way (i.e. compelling questions, phenomena, big ideas)?  
• Are there standards that need to be included in multiple units?  
• What is the appropriate pacing of the units throughout the year or course that builds in time for teachers to respond to student needs? | □ Organize and Sequence Grade-Level Standards to Create Units  
□ Determine Appropriate Pacing | • Guiding Questions for Organizing and Sequencing Standards |
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| Develop Grade-Level/Course Curricular Supports | • Develop support for teachers around the “how” in order for the school or district’s articulated philosophy to translate into the teaching and learning in the classroom | • Provide time for team members to create the necessary supports for each grade-level or course as outlined in the curriculum document template.  
• How might opportunities be structured to allow for both horizontal and vertical feedback of all work completed?  
• Do the curriculum supports reflect the intent of the KAS and the articulated philosophy? | □ Develop Curriculum Supports for Grade-Level/Course Curriculum Template  
□ Provide Feedback to Ensure K-12 Coherence and Clarity | • Considerations for Creating a Curriculum Document Template  
• RISE Model for Peer Feedback |
| Identify Instructional Resources and Professional Learning to Support Implementation | • Identify the instructional resources and professional learning necessary to develop teacher understanding of the curricular vision | • What is the level of alignment between existing resources to the articulated philosophy and the content area standards? Are there gaps in existing resources that might require purchasing new resources?  
• Are there areas of identified best practice in the articulated philosophy in which there is currently little evidence of implementation in classrooms across the school or district?  
• Is professional learning needed to assist teachers in selecting and utilizing instructional resources to engage students in standards-based, grade-appropriate assignments?  
• What type of professional learning is needed to support school leaders in understanding the curriculum and monitoring for evidence of implementation in the classrooms? | □ Evaluate Existing or Potential Resources  
□ Create a Professional Learning Plan to Build Staff Capacity of New/Revised Curriculum | • Instructional Resources Alignment Rubrics  
• Professional Learning Plan Template |
# Phase 3: Implementing and Monitoring the Curriculum Toolkit

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| **Implement the New/Revised Curriculum** | • Build understanding of the curriculum with staff and to create a plan for supporting and monitoring implementation | • What data will be collected to determine what is working, what is not working and what is needed to improve to ensure alignment between the intended and the implemented curriculum?  
• What data will be collected to ensure student attainment of the curriculum aligned to the depth of the Kentucky Academic Standards? | □ Provide Professional Learning for Staff  
□ Develop a Monitoring Plan | • Professional Learning Plan Template  
• Curriculum Implementation Monitoring Plan Template |
| **Collect Quantitative and Qualitative Data to Monitor Implementation** | • Gather evidence to determine level of implementation as outlined in the school or district’s Curriculum Implementation Monitoring Plan | • What data should be gathered that would represent overall student performance closely linked to daily instruction?  
• Possible sources of quantitative data:  
o grade-level or course assessment results,  
o samples of student work  
o sample tasks, assignments and assessments to look for alignment to standards  
• Possible sources of qualitative data:  
o Information gathered from classroom observations, including informal and formal principal observations  
o information gathered from instructional rounds, learning walks or other similar processes conducted by school and/or district leadership  
o feedback from surveys and on-going conversations with students and school and district staff | □ Gather Evidence as Indicated in the Monitoring Plan | • Curriculum Implementation Monitoring Plan Template |
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| **Analyze Data to Adjust Curriculum and/or Professional Learning** | • Analyze data to determine next steps to help teaching and learning continually move toward the vision laid out in the articulated philosophy | • Does the data indicate teacher confusion around wording in the curriculum documents that may require the team to change the language to provide more clarity?  
• Does the data indicate a need for adjustments to the pacing or sequencing of the standards within the curriculum for a particular grade-level or course?  
• Does the data indicate areas of professional learning needed to support teacher understanding and use of specific best-practice instruction outlined in the articulated philosophy? | □ Analyze data gathered from ongoing monitoring of curriculum implementation  
□ Revise Professional Learning Plan as needed  
□ Revise Curriculum as Needed | • Data Analysis Protocol  
• Data Analysis Template  
• Professional Learning Plan Template |
## Appendix B

### Leadership Strategy # 1: Establish Vision and Purpose

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| **Create a Collaborative Leadership Team** | • Create and sustain a culture of collective responsibility  
• Keep the school and/or district focused on its mission, vision and collective commitments  
• Anticipate and respond to the questions teams may have as work each critical element of the PLC process | • Possible considerations when selecting team members:  
  o Position Power  
  o Expertise  
  o Credibility  
  o Leadership  
• Possible members might include:  
  o School and/or District Leaders  
  o Teacher Leaders from various schools and/or grade levels  
  o Instructional Coaches  
  o Classified and Support Staff Representative(s)  
  o Parent/Legal Guardian Representative(s)  
  o School-based Decision Making Council Representative(s)  
  o Board of Education Representative(s)  
• Does the makeup of the team represent all relevant perspectives and reflect the various expertise and experiences of the school or district? | • Selecting and Reflecting on Guiding Coalition Members  
• Building an Effective, Balanced Leadership Team |

| **Analyze Current Reality** | • Assess the school and/or district’s current reality in regards to student achievement and culture  
• Conduct a root cause analysis to address underperformance  
• Identify evidence-based practices that support improving student achievement and school/district culture  
• Identify the gap between current systems, structures and practices in the school and/or district and the systems, structures and practices of high-performing schools and district | • Possible evidence or data the team might analyze includes:  
  o Student and staff attendance  
  o Student discipline data  
  o Student learning data  
  o Data gathered from perception surveys from various stakeholder groups  
  o Demographic data  
• What are some ways in which the team might identify evidence-based practices that impact student achievement and school/district culture?  
  o Possible ideas include:  
    ■ Analyze a synthesis of the research on characteristics of high performing schools, such as PLCs, use of clear learning outcomes, ongoing monitoring of student learning, systematic approach to interventions and high expectations for all student  
  • Conduct site-visits to see the PLC process in action | • Data Focus  
• A Data Picture of Our School Template  
• Current Reality and Steps to Success Template  
• Whole Faculty Protocol for Analyzing Schoolwide Data |
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<tr>
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<th>Considerations</th>
<th>Tools and Resources</th>
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<tr>
<td>Build a Shared Foundation</td>
<td>● Engage staff in building consensus around the four essential pillars of the PLC foundation:</td>
<td>● Questions to guide the creation of the PLC foundation:</td>
<td>Guiding Questions for Clarifying Mission, Vision, Values, and Goals</td>
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<td>○ Shared Mission</td>
<td>○ Why do we exist?</td>
<td>Protocol for Developing Mission and Vision</td>
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<td>○ Vision</td>
<td>○ What must our school become to accomplish this purpose?</td>
<td>Action Planning Template</td>
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<td>○ Values (Collective Commitments)</td>
<td>○ How must we behave to achieve our vision?</td>
<td>Elementary Example</td>
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<td>○ Goals</td>
<td>○ How will we mark our progress?</td>
<td>High School Example</td>
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<td>● How will the school/district ensure every practice, policy and procedure is aligned to the fundamental purpose of ensuring high levels of learning for all?</td>
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Leadership Strategy # 2: Create Clarity and Coherence

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<tr>
<td>Utilize a Loose-Tight Leadership Approach</td>
<td>Establish the non-negotiables (&quot;tights&quot;) that must be adhered to and honored at all levels of the school and/or district regarding PLCs</td>
<td>How will school/district leaders build a shared understanding throughout the system for each non-negotiable critical to PLC implementation? In what ways will people through the school/district be provided opportunities to offer input and ask clarifying questions around each non-negotiable? Recommended PLC non-negotiables include: ○ Educators work collaboratively rather than in isolation, take collective responsibility for student learning and clarify the commitments they make to each other about how they will work together; ○ The fundamental structure of the school becomes the collaborative team in which members work interdependently to achieve common goals for which all members are mutually accountable; ○ The team establishes a guaranteed and viable curriculum, unit by unit, so all students have access to the same knowledge and skills regardless of the teacher to whom they are assigned; ○ The team develops common formative assessments to frequently gather evidence of student learning; ○ The school has created a system of interventions and extensions to ensure students who struggle receive additional time and support for learning in a way that is timely, directive, diagnostic and systematic, and students who demonstrate proficiency can extend their learning; and ○ The team uses evidence of student learning to inform and improve the individual and collective practice of its members</td>
<td>Tools to Monitor Loose and Tight Leadership</td>
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Create Common Language | Ensure all stakeholders are speaking a common language throughout the school and/or district regarding the key terms associated with the improvement strategies | How will school/district leaders build understanding of each key term and how that concept or idea fits into the overall picture of the PLC process? Possible steps for building understanding include: ■ Identifying the key terms required to move forward ■ Teaching those terms through descriptions, explanations and examples ■ Engaging staff in discussions of the key terms ■ Periodically assessing levels of understanding | Glossary of Key Terms and Concepts |
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<td><strong>Limit Initiatives</strong></td>
<td>• Identify a few key evidence-based priorities that support continuous improvement and then pursue them relentlessly</td>
<td>• How will school/district leaders build an understanding throughout the system of how each key priority related to the PLC process connects to the bigger picture of the vision, mission, values and goals to support one sustained improvement effort over time?</td>
<td>• Aligning School Practices with Essential PLC Characteristics&lt;br&gt;• Template for Clarifying Mixed Messages</td>
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<td><strong>Effectively Communicate Priorities</strong></td>
<td>• Clearly communicate the goals and priorities to all stakeholder</td>
<td>• How will school/district leaders articulate a simple and consistent message regarding PLCs when speaking with various stakeholders?&lt;br&gt;• How will school/district leaders ensure their actions align with the identified priorities?&lt;br&gt;• How will school/district leaders ensure 2-way communication with all stakeholders throughout implementation of the PLC process to ensure all perspectives are heard and valued?&lt;br&gt;• What formal and informal strategies will be utilized to seek feedback from stakeholders throughout implementation?</td>
<td>• Effective Communication Planning Template</td>
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<td><strong>Develop Capacity to Lead the Process</strong></td>
<td>• Build the capacity of staff to lead the change process&lt;br&gt;• Provide ongoing training and support to staff to meet the established expectations.</td>
<td>• How will school/district leaders provide initial training for staff to build understanding of the PLC process and why the initiative is critical to improving student learning?&lt;br&gt;• How will school/district leaders provide ongoing training throughout PLC implementation?&lt;br&gt;• How might district leaders utilize principals’ meetings to build capacity to lead the process in their respective schools, identify and resolve implementation challenges and to model the work of a PLC?&lt;br&gt;• How might school leaders utilize their leadership team to build capacity, identify and resolve implementation challenges and model the work of a PLC?&lt;br&gt;• How will school leaders identify and develop the capacity of teacher leads for school-based teams?</td>
<td>• Critical Questions for District Office Consideration&lt;br&gt;• Critical Questions for Principal Consideration</td>
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Leadership Strategy # 3: Create Collaborative Systems and Structures

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| Organize Staff into Meaningful Teams            | • Organize staff into meaningful collaborative teams that require people to work together interdependently to achieve common goals for which all members are mutually accountable. | • How will school and/or district staff be organized into meaningful teams based on the criterion that members have a shared responsibility for student learning and addressing the four questions that drive a PLC?  
• Possible team structures include:  
  o Grade-level or course content teams  
  o Vertical teams  
  o Electronic teams  
  o Interdisciplinary teams  
  o Logical Link Teams  
• Will some individuals need to be a part of more than one PLC? How will leaders ensure those individuals are given the necessary time to be an active member of each team? | • Checklist for Establishing and Maintaining Collaborative Teams Schoolwide |
| Provide Time for Teams to Collaborate           | • Provide teams with the necessary time to do the work being asked of them as part of the PLC process | • How will school and/or district leaders work with team leads to address the following:  
  o agree on the work that must be done,  
  o determine a timeline for completion of the work, and  
  o clarify the products or evidence teams will provide to demonstrate their work.  
• How will school and/or district leaders provide teams with meaningful and timely professional learning necessary to complete the work?  
• How will school and/or district leaders provide teams with the necessary templates and models to help guide and assess the quality of their work? | • Making Time for Collaboration |
| Clarify the Work Teams Must Accomplish          | • Establish clear parameters and priorities that guide teams toward the goal of improving student learning | • How will school/district leaders build an understanding throughout the system of how each key priority related to the PLC process connects to the bigger picture of the vision, mission, values and goals to support one sustained improvement effort over time? | • Critical Issues for Team Considerations  
• “Are We Focused on the Right Work?” Graphic Organizer  
• Possible Products and Team Characteristics |
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| Create a School-wide System of Interventions    | • Develop highly effective, systematic interventions that provide students with the additional time and support they need | • How will school leaders work with staff to create a school-wide system of interventions into the school schedule?  
• Considerations for non-negotiable elements of a school-wide system of interventions:  
  o Interventions must be provided in addition to effective, grade-level Tier I instruction, not in place of it.  
  o An effective system of interventions starts with the foundation of strong Tier I instruction delivered to all students.  
  o There must be a systematic and timely process to identify students who need additional time and support.  
  o The master schedule must allocate time for supplemental and intensive interventions.  
  o Interventions must be targeted by student, by standard.  
  o Interventions must be provided by trained professionals.  
  o Interventions must be mandatory; not optional for students to attend.  
  o Interventions must not come at the expense of students who succeed in core instruction. | • Designing a System of Interventions  
• Systematic Intervention Worksheet  
• Checklist to Evaluate the Effectiveness of Our Systematic Support System  
• Intervention Targeting Process |
# Leadership Strategy # 4: Monitor Implementation

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| **Monitor and Provide Ongoing Support** | Establish a process for monitoring the work of the collaborative teams  
Clearly communicate priorities and goals and the evidence that will be gathered to determine what is working, what is not working and what is needed to improve | What products of the collaborative teams will be used to monitor implementation (i.e. team norms, SMART goals, common assessments and student data)?  
How will school and/or district leaders provide differentiated support to collaborative teams based on analysis of each team’s products?  
Who will have the responsibility for collecting and analyzing the data? How might the collaborative leadership team be a part of the process?  
How will school and/or district leaders create feedback loops focused on transparency of results from common assessments, collective analysis of results and shared responsibility for improving results?  
How will district leaders provide time and support for principals to work collaboratively to identify and resolve problem areas in a school and learn from those that are being successful in improving student learning?  
How will school and/or district leaders continually build trust among the staff to ensure the focus is on informing and improving practice, not about rating or ranking the schools and/or the teachers? | Possible Products and Team Characteristics  
Critical Issues for Team Considerations  
Professional Development for Learning Teams  
Action Planning Template |
| **Address Conflict** | Confront individuals when their behavior is in direct conflict with the established “rights” of the collective commitments | How will school and/or district leaders address conflict and resistance and hold individuals accountable to the agreed upon behaviors?  
Considerations when having crucial conversations to address conflict:  
• Conduct the conversation in private.  
• Express specific concerns regarding the behavior of the individual and avoid generalities or judgements about attitudes.  
• Contrast the individual’s behavior with the collective commitments that staff has made to better achieve the mission of the school. Remind the individual that these commitments were created by the entire faculty and that he/she had a voice in this process.  
• Invite the individual to explain his/her behavior in light of the commitments. Look for areas of agreement and common ground. Be prepared to share specific research and evidence to support why the requested behaviors are desirable and | Administrator Role in Team Conflict  
Suggestions for Addressing Conflict |
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<td>necessary.  ○ Clarify the very specific behaviors that you will require of the individual both verbally and in writing to avoid any misunderstandings.  ○ Invite the individual to suggest any support, training, or resources he/she may need to comply with the directive.  ○ Clarify the specific consequences that will occur if the individual does not comply with the directive.</td>
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<td>Celebrate Progress</td>
<td>• Recognize and celebrate the effort and incremental progress achieved throughout implementation</td>
<td>• How will school and/or district leaders build in opportunities for intentional and specific celebrations that reinforce the shared mission, vision, collective commitments and goals of the school and/or district?  • How will school and/or district leaders work within their leadership teams to establish a series of incremental, manageable steps aligned with implementation of key elements of the PLC process that will be used to mark short-term wins along the way?  • Key factors for incorporating celebration into the school and/or district culture:  o Explicitly state the purpose of the celebration  o Make celebration everyone’s responsibility  o Establish a clear link between the recognition and the behavior or commitment you are attempting to encourage and reinforce  o Create opportunities for many winners</td>
<td>• Opportunities for Celebration</td>
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## Appendix C

### Annual Work of a PLC

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| Create Team Norms         | • Create norms that clarify the team’s expectations of one another regarding procedures, responsibilities, and relationships | • Considerations for Team Norms:  
  o Each team should create its own norms.  
  o Norms should be stated as commitments to act or behave in certain ways rather than as beliefs.  
  o Norms should be reviewed at the beginning and end of each meeting for at least six months.  
  o Teams should formally evaluate the effectiveness of their norms at least twice a year.  
  o Teams should focus on a few essential norms rather than creating an extensive laundry list.  
  o One of the team’s norms should clarify how the team will respond if one of more.  
  • Possible areas for developing expectations when creating team norms:  
    o Time (i.e., punctuality, timeliness)  
    o Communication (i.e., listening, responding)  
    o Decision-making (i.e., inquiry, advocacy)  
    o Participation (i.e., attendance, engagement)  
    o Expectations (i.e., roles, responsibilities)  
    o Conflict Resolution  
  • What process or protocol will the team use to ensure all team member’s voices are heard when creating norms?  
  • How will the team continually revisit the norms and make adjustments as necessary to ensure productive team collaboration? | • Protocol for Developing Team Norms  
• Establishing Team Roles  
• Team Trust Survey  
• Sentence Stems for Communicating Responsibly  
• Managing Team-Based Conflict |
| Establish Team SMART Goal  | • Translate the broader goals of the school and/or district into specific goals for grade-level or course content teams to improve student learning | • Criteria for establishing a SMART goal:  
  o Strategic and specific  
  o Measurable  
  o Attainable  
  o Results-oriented  
  o Time bound  
  • Considerations when establishing the team’s SMART goal:  
    o Is the goal based on past student achievement?  
    o Does the goal include the improvement goal for the indicator | • Criteria for Planning SMART Goals  
• SMART Goal Worksheet  
• Sample 8th Grade Smart Goal |
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<td>being monitored?</td>
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<td>○ Do all members of the team feel confident that through their</td>
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<td>collective actions they can achieve the goal?</td>
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<td>○ Do all members have a clear understanding of the goal, how</td>
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<td>each member can contribute to achieving the goal and the</td>
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<td>specific evidence that will be gathered to monitor progress</td>
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<td>toward the goal?</td>
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<td>● Has each team established short-term goals that will be used</td>
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<td>to measure progress along the way to reaching the annual SMART</td>
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<td>goal?</td>
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<td>● How will school and/or district leaders monitor the individual’s</td>
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<td>behavior and follow through on the specific consequences if the</td>
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<td>person fails to adhere to the discussed behaviors?</td>
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### Recurring Work of a PLC (Each Unit of Instruction)

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| **Address Question 1:** What do we expect our students to learn? | • Clarify and reach consensus on the essential knowledge, skills, and/or concepts necessary for students to reach the intended depth of the grade-level standards for each unit of instruction. | • How will each team collaborate to determine the essential learning outcomes aligned to the KAS and local curriculum documents for each unit of instruction? | • Kentucky Academic Standards documents  
• Breaking Down a Standard Protocol  
• Teaching Cycle Planning Template  
• Balanced Assessment Module 3: Clarifying and Sharing Learning Goals and Success Criteria |
<p>|             |                                                                         | • Possible action steps teachers can use as they engage in collective inquiry to address the first question of a PLC for each unit of instruction: |                                                                                  |
|             |                                                                         |   o Collectively study the standards using the KAS documents, local curriculum documents and other supporting internal and external resources. |                                                                                  |
|             |                                                                         |   o Clarify and reach consensus on the essential knowledge, skills, and/or concepts necessary for students to reach the intended depth of the grade-level standards for that unit. |                                                                                  |
|             |                                                                         |   o Determine a learning progression that leads students to what they are expected to know and be able to do. |                                                                                  |
|             |                                                                         |   o Determine what proficiency looks like for each essential learning outcome. |                                                                                  |
|             |                                                                         |   o Establish common pacing guides and agreed-upon assessment schedules. |                                                                                  |
|             |                                                                         |   o Commit to one another to actually teach the agreed-upon curriculum. |                                                                                  |
|             |                                                                         | • Possible questions teams can use to create a learning progression: |                                                                                  |
|             |                                                                         |   o What prior knowledge is necessary for learners to successfully engage in this learning? |                                                                                  |
|             |                                                                         |   o What skills and concepts did students need to master in prior standards? |                                                                                  |
|             |                                                                         |   o What learning experiences must they have to successfully build their prior learning and background knowledge? |                                                                                  |
|             |                                                                         |   o What key vocabulary is explicit or implicit within the verbiage of the standard or curriculum expectations? |                                                                                  |
|             |                                                                         |   o What scaffolding is necessary for all learners to successfully engage in this learning? |                                                                                  |
|             |                                                                         |   o What do we know about students that can make these learning experiences more meaningful? |                                                                                  |
| <strong>Address Question 2:</strong> How will we | • Create team-developed common assessments aligned to each unit’s intended learning outcomes and establish the criteria the team will use to assess the quality of student work | • Possible steps teams can use when creating common formative assessments for each unit of instruction: | • Sample Protocol for Developing a Common Assessment |
|             |                                                                         |   o Determine which essential learning outcomes from the unit to include on the assessment. |                                                                                  |</p>
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<td><strong>know if they are learning?</strong></td>
<td>Discuss, analyze and respond to results of student learning from common assessments to improve student learning and teacher practice</td>
<td>Discuss the cognitive demand associated with each learning outcome. Decide what type of assessment item to use and how many will be necessary to ensure reliability. Match the rigor and the learning goal to the type of item that will best assess it. Decide how many questions the student must get correct or what level of a rubric or other established criteria the student must achieve in order to be considered proficient. Review the assessment plan to determine how much time the assessment will take.</td>
<td><strong>● Common Formative Assessment Plan</strong>&lt;br&gt;<strong>● Common Assessment Data Analysis Protocol</strong>&lt;br&gt;<strong>● Team Data Template</strong>&lt;br&gt;<strong>● Unit Reflection Template</strong></td>
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<td><strong>Address Question 3: How will we respond when</strong></td>
<td>Ensure all students experiencing difficulty in reaching proficiency on essential learning goals within each unit receive additional time and support. Provide targeted interventions by student, by standard</td>
<td>How will teams use the results of their common formative assessments to respond to student needs at the Tier I level? How will teams use the results of their end-of-unit assessment to provide supplemental targeted interventions by student, by standard? Possible steps teams can use to design supplemental Tier 2 targeted interventions:</td>
<td><strong>● Proactive Intervention Planning Form</strong>&lt;br&gt;<strong>● Intervention Targeting Process</strong>&lt;br&gt;<strong>● Unit Reflection Template</strong></td>
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| **some students do not learn?** | | ○ Identify concerns  
○ Determine cause  
○ Target desired outcome  
○ Design intervention steps  
○ Monitor progress  
○ Assign lead responsibility | |
| **Address Question 4: How will we extend learning for students who already know it?** | • Design and provide extension activities for students that have met proficiency | • How will the team ensure extension activities stretch students beyond the essential learning outcomes or levels of proficiency and allow them to dig deeper into the content of the unit?  
○ Possible examples include:  
  ■ Challenging students to look at specific concepts and ideas from different perspectives  
  ■ Apply skills to new situations or contexts  
  ■ Look for different approaches to solving a problem  
  ■ Use the skills they have learned to create a product or new outcome  
• Possible questions to assist collaborative teams as they plan student extensions  
  ○ What standards will be used in the extension?  
  ○ What type of extension will be most beneficial to the majority of students that have demonstrated proficiency?  
  ○ How will student learning be measured for this extension?  
  ○ Which team member will lead the extension? | • Teaching Cycle Planning Template |
Appendix D

The Kentucky Department of Education’s Balanced Assessment Modules

Module 1: Comprehensive, Balanced Systems of Assessment
Through this module, participants will learn about the essential components of a comprehensive, balanced assessment system and how different assessments can work together to support student learning. The module will take a closer look at different assessment types and purposes, how a knowledge of the standards leads to meaningful assessment and build an understanding of the assessment cycle.

Module 2: Understanding Formative Assessment
Through this module, participants will build a common understanding of the assessment cycle in the formative assessment process. The module will both define formative assessment and take a closer look at the essential conditions necessary for formative assessment.

Module 3: Clarifying and Sharing Learning Goals and Success Criteria
Through this module, participants will learn about how the standards and associated learning expectations inform high quality assessment. The module will focus on how to elicit meaningful evidence of student learning through clarification of learning progressions, learning goals and success criteria.

Module 4: Eliciting Evidence of Student Learning
In section 1 of this module, participants will learn about designing and eliciting evidence of student learning aligned to the standards. The module will take a closer look at strategies for eliciting evidence aligned to the depth of the standard and criteria for high-quality classroom assessments. In section 2, participants will learn about valid assessment practices. The module will also consider how to ensure assessment practices are culturally relevant and free from unintended barriers.
Module 5: Interpreting Evidence of Student Learning
Each content-specific module is designed to address the unique needs of interpreting evidence of student learning in Mathematics, Reading and Writing, Science or Social Studies. Participants will learn about strategies for interpreting student evidence, engaging students in the interpretation and analysis of their own evidence, using student learning evidence to guide the formative assessment process, and identifying patterns in student responses that can inform teacher and student learning.

Module 6: Acting on Evidence of Student Learning
Each content-specific module is designed to address the unique needs of acting on evidence of student learning in Mathematics, Reading and Writing, Science or Social Studies. Participants will learn about strategies to adjust instruction in the moment as well as to improve teacher practice over time. The module will also focus on the characteristics of meaningful feedback and how students and teachers might use the evidence of student learning to adjust learning tactics and instruction.