Resource Guide
for

Deepening the Understanding of Teachers' Professional Practices

In support of the

Rubric for Evaluating Colorado Teachers

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cde
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THE COLORADO EDUCATION INITIATIVE

Table of Contents

Introduction

Utilizing the *Resource Guide for Deepening the Understanding of Teachers' Professional Practices* *(in support of the Rubric for Evaluating Colorado Teachers)*

The *Resource Guide* is provided by the Colorado Education Initiative and the Colorado Department of Education as a resource for supporting Colorado school district employees, administrators, and teachers in developing an understanding of the Rubric for Evaluating Colorado Teachers. As individuals apply the rubric to their own teaching and to that of others, the *Resource Guide* can be used to support observers and coaches in accurately identifying evidence for the professional practices and for classroom teachers to accurately reflect on their teaching and plan for implementation of specific practices in their instruction. The research and examples provided along with the glossary can be used to support the development of a common language by which Colorado school district employees can analyze, reflect, and plan instruction.

This guide is not intended to provide an example for every grade level and content area. It is intended to share possible examples of how practices might be addressed. Resources and examples are to be used with discretion to fit the context of the content and students the educator teaches. We anticipate that there will be multiple opportunities to review and fine-tune the content of this guide so that it best represents the expectations for Colorado educators and encourage your feedback.

The *Resource Guide* contains the following sections:

- Table of Contents
- Introduction
- Teacher Quality Standards and Elements Content
- Glossary
- Bibliography
- Internal Resource Documents

NOTE: Throughout the *Resource Guide*, because it is in sole support of the Teacher Quality Standards, the word "standard(s)" is routinely used (except in section headings, where Teacher Quality Standard I, Teacher Quality Standard II, and Teacher Quality Standard III are identified).

Content of the *Resource Guide*:
The Teacher Quality Standards and Elements content contains the following sections:

- Teacher Quality Standard I: Elements A through F
- Teacher Quality Standard II: Elements A through F
- Teacher Quality Standard III: Elements A through H

For the elements within each standard, content is provided for the professional practices referenced under the rating levels: Basic, Partially Proficient, and Proficient.

The content, at the practice or element level, is comprised of the following:

- Research related to the practice.
- Ideas for implementing the practice.
- Resources both external and internal to the *Resource Guide.*
- References to related elements or practices within the rubric.
- Classroom examples.
- Coaching/self-reflection questions.

R**esearch** is included to provide rationale for the professional practice referenced. This may be utilized by principals/assistant principals and/or observers when providing training on an element or when providing

feedback to a teacher. The purpose of the research is to illustrate why a specific practice referenced in the rubric is considered a best practice.

Ideas for implementation of the practice are provided as suggestions or guiding questions for teachers to consider when planning for implementation of a practice. They may also be utilized by principals/assistant principals and/or observers when providing feedback or ongoing support to teachers.

Resources are referenced that provide further information or ideas for implementation of a practice. Resources may be external to the *Resource Guide*; direct links are provided. These external resources may be articles, videos, websites, and/or supporting documents. Resources may also be internal PDF documents, which have been imported into the *Resource Guide.* To access an internal resource document, users may click on the resource title within the *Resource Guide*. (To return to the location from which the user linked, enter the page number in the page number field at the top of the document.) The final section of the document contains an alphabetical (by title) index of all internal resource documents (the page number of the index can be found in the Table of Contents); following the index, all internal documents are organized alphabetically, by title. Finally, the index includes a column indicating the standard and element to which the resource is aligned.

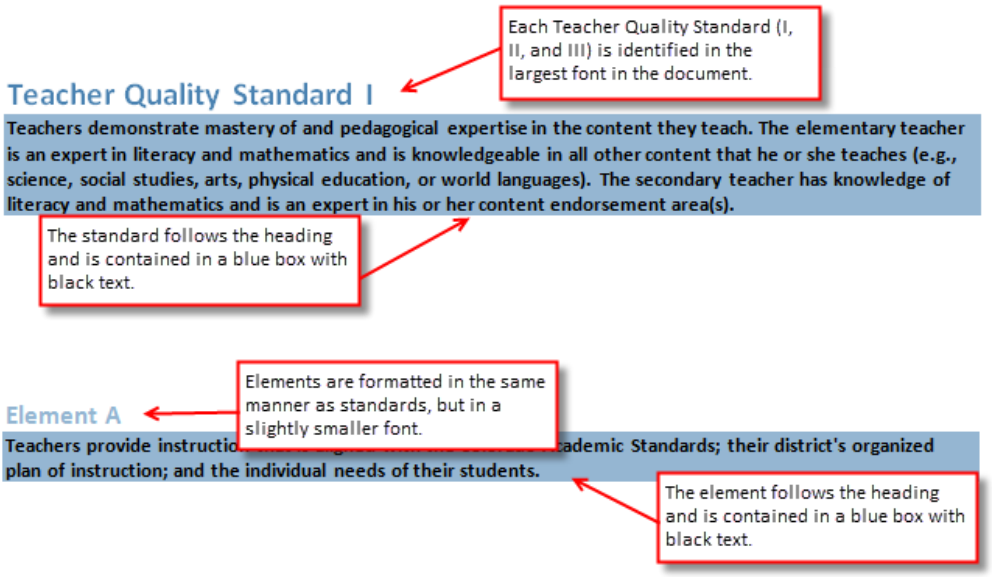
References to related elements or practices within the rubric are provided as a means of communicating the interconnectedness of the rubric. They may be used to locate additional information for a practice and to support principals/assistant principals, observers, and teachers in understanding how the implementation of a given practice is impacted by the implementation of related practices.

Classroom examples provide a model for how the practices *can* be implemented at the elementary, middle, and high school levels. Within each example, the corresponding practices that are evident are referenced in parenthesis. The examples may be used by principals/assistant principals and/or observers to provide feedback to teachers or to develop support and professional development. Teachers may use them to develop ways to implement the practices in their instruction. The examples are not meant to represent the only way a practice can be implemented, but as a model for how the practice *could* be implemented. The effectiveness of the implementation will always be dependent on the purposefulness in which it was done and how it impacted student learning.

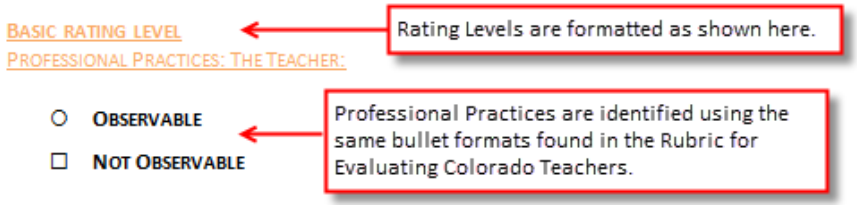
Coaching and reflection questions are provided to support teachers' self-reflection and as a resource for principals/assistant principals and observers in providing feedback to teachers. Recognizing that the implementation of practices referenced on the rubric begins with thoughtful planning, the questions can be used by teachers in planning for the purposeful and strategic implementation of these best practices in their instruction.

As principals/assistant principals, observers, and classroom teachers develop knowledge and understanding of the rubric, they may refer to the glossary for further clarification. Words located in the glossary will be underlined and blue (traditional hyperlink formatting) the first time they appear in an element and will hyperlink to the glossary.

Visual formatting of the *Resource Guide* is shown here:

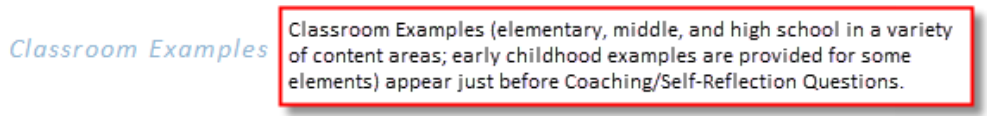


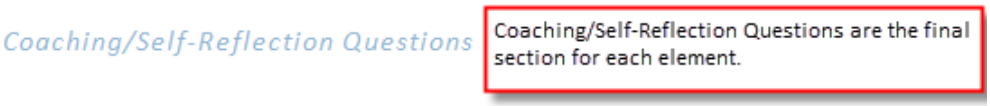
Each professional practice under the Basic, Partially Proficient, and Proficient rating level will be referenced with corresponding content and references to resources. Professional practices that are **Observable** or **Not Observable** during a classroom observation will be noted as they are in the rubric for Evaluating Colorado Teachers.



Users of the Resource Guide and rubric should note that professional practices referenced under each Element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in an element, they must be implementing all practices under the Basic, Partially Proficient, and Proficient level.

Each professional practice under Accomplished and Exemplary will be referenced; however, content for these practices is not included in the *Resource Guide*.





Teacher Quality Standard I

Teachers demonstrate mastery of and pedagogical expertise in the content they teach. The elementary teacher is an expert in literacy and mathematics and is knowledgeable in all other content that he or she teaches (e.g., science, social studies, arts, physical education, or world languages). The secondary teacher has knowledge of literacy and mathematics and is an expert in his or her content endorsement area(s).

The key to distinguishing the knowledge base of teaching rests at the intersection of content and pedagogy.
—L. S. Shulman

> To teach all students according to today's standards, teachers need to understand subject matter deeply and flexibly so they can help students create useful cognitive maps, relate one idea to another, and address misconceptions. Teachers need to see how ideas connect across fields and to everyday life. This kind of understanding provides a foundation for pedagogical content knowledge that enables teachers to make ideas accessible to others. (Shulman, 1987)

Although Shulman's work dates back to the late 1980's, the importance of teacher content knowledge and pedagogical expertise has never been more important than it is now as teachers ensure students are college and career ready for the demands of the 21st century.

Element A

Teachers provide instruction that is aligned with the Colorado Academic Standards; their district's organized plan of instruction; and the individual needs of their students.

A teacher translates instructional outcomes into learning experiences for students through the design of instruction; it is here that a teacher's knowledge of the content, knowledge of his/her students, clarity of instructional outcomes, and knowledge of resources come together to result in a plan of action. Even in classrooms where students assume considerable responsibility for their learning, the teacher is in charge of organizing the environment, managing the learning process, and establishing the framework for assessment.
—Charlotte Danielson

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in providing instruction that is aligned with the Colorado Academic Standards, their district's plan of instruction and the needs of their students, they must implement lesson plans that provide for review of prior learning and are based on objectives appropriate for students. As a support in implementation of lesson plans, the teacher collaborates with other school staff to vertically and horizontally align, articulate, and deliver the approved curriculum.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Uses lesson plans that reflect:

- **Opportunities to review prior learning.**

In the book *Visible Learning for Teachers Maximizing Impact on Learning* John Hattie identifies three big ideas from Bransford's research in *How People Learn*. One of the big ideas he identifies is linking previous knowledge to new learning.

> Although we start with existing knowledge, new learning is not simply tacked on, 'brick by brick,' to the old knowledge — which is why the relationships between old and new understandings are so important. We come to know ideas, and then we can be asked to relate, and extend them. This then leads to

conceptual understanding, which can then in turn become a new idea — and so the cycle continues. …Teachers therefore need to be aware of each student's surface and deep knowing, and the ways in which students have current conceptions, and constantly check to see if the new ideas are being assimilated and accommodated by each learner. (Hattie, 2012, p. 115)

Ways teachers and students may review prior learning:

- Questioning: Questions can be a powerful review activity when they are used to assess student learning from previous lessons. Questions may be used to review vocabulary or previously taught content. Example follows:
    - Teacher: "Yesterday we made inferences about a character's traits. How did we do that? How did we connect text evidence to our schema? What is our schema? Today, we are going to use the same process and infer about what a character may be thinking or feeling."
- Summarizing: A brief summary of previous learning experiences can help students know what to expect and how the lesson activities are connected to previous learning and unit goals. A summary may consist of connecting a series of lessons to unit goals or academic standards for the purpose of viewing how concepts or skills have been scaffolded for student mastery. Examples follow:
    - Teacher: "We have been learning about the events that led to the Revolutionary War. We examined the impact of taxes imposed on the colonists by the King and Parliament. We looked at the impact of the Boston Tea Party on the relationship between England and the colonists. Today, we are going to learn about the Boston Massacre and its impact on this relationship."
    - Students may also provide summaries:
        - Use their notes to summarize learning over a series of lessons.
        - Review vocabulary and explain how it has connected to concepts learned.
        - Teacher may say: "Turn and talk to a partner and summarize what we learned yesterday."
- KWL Chart: Teacher and students begin a lesson by revisiting a KWL chart to review what students have learned and still want to learn about a specific concept or skill. Example follows:
    - Teacher: "We began our unit on Claude Monet and Impressionism by completing the K and W portions of our chart. Let's review some of the things you said you wanted to know about this type of art. Based on the lesson yesterday, what things have you learned? What do you still want to know? As we continue our study of Monet and Impressionism, record questions you have and we will add them to our KWL chart. Your questions can help guide our unit of study."

Daily review of previously learned concepts or skills can support student learning in the following ways:

- Increase student engagement by making learning relevant and meaningful to students' lives and past learning experiences.
- Support retention of knowledge by reviewing previously learned concepts or skills and connecting them to new learning.
- Support students in making their own connections to previous learning and other disciplines. ***(Refer to Standard I, Element E and Standard III, Element C.)***
- Provide assessment information on students' retention of previously taught content or skills. ***(Refer to Standard III, Element B.)***

Reference the following external resource for additional information:

- Article: "Are you Tapping into Prior Knowledge Often enough in Your Classroom?" by Rebecca Alber
  http://www.edutopia.org/blog/prior-knowledge-tapping-into-often-classroom-rebecca-alber
  Article explains the importance of students using prior knowledge and experience to guide their learning and provides ideas for how teachers may do this.

Reference the following internal resource for additional information:

- Examples of Lesson Plans

  Document provides examples of kindergarten, 6th grade, and high school lesson plans that align with professional practices referenced under Basic.

- **Instructional objectives appropriate for students.**

Instructional objectives must be clear and stated in terms of student learning rather than student activity: "What will students *learn* as a result of the instructional and student activity?" Not, "What will students do?" That learning objectives are clearly stated does not imply that they should be low level in their cognitive challenge.

> Instructional goals should be capable of assessment. They must be stated in clear language that permits viable methods of evaluation and the establishment of performance standards. Verbs that define instructional goals should be unambiguous and suggest assessment techniques. The goals must be appropriate to the diverse students in a teacher's charge, providing for the students' age and developmental levels, prior skills and knowledge, and interests and background. (Danielson, 1996)

Even though the term learning *goal* (objective) is commonly used by practitioners, there appears to be some confusion as to its exact nature. For example, consider the following list, which typifies learning goals one might find in teachers' planning books:

- Students will successfully complete the exercises in the back of chapter 3.
- Students will create a metaphor representing the food pyramid.
- Students will be able to determine subject/verb agreement in a variety of simple, compound, and complete sentences.
- Students will define the characteristics of fables, fairy tales, and tall tales.
- Students will investigate the relationship between speed of air flow and lift provided by an airplane wing.

Some of the statements—the first, second, and last—involve activities as opposed to learning goals. As the name implies, activities are things students do. … Activities are a crucial part of effective teaching. They constitute a means by which the ends or learning goals are accomplished. However, they are not learning goals. (Marzano, 2007, p. 17)

Guiding questions for the development of instructional objectives:

- What do students need to know about (concept or skill)?
  - What are the procedural skills students must have?
  - What are the enduring understandings students need to obtain?
- What do my students already know about (concept or skill)?
- How will I need to sequence and segment student learning for this standard?
- How will the language of the standard impact the language of instructional objectives?
- What sub-objectives will need to be reviewed versus sub-objectives that will need to be taught?
- How will I measure student mastery of the standard and daily objectives?

Examples of measurable verbs for use in developing instructional objectives:

list	identify	retell
define	describe	solve
summarize	explain	compare
determine	contrast	evaluate

Reference the following external resource for additional information:

- Article: "Know Where Your Students Are Going" by Robyn Jackson
  http://tcrpalliance.files.wordpress.com/2011/07/objectives_know-where-your-students-are-going.pdf

  Article provides guidelines for writing learning objectives.

Reference the following internal resource for additional information:

- Learning Objectives vs Activity Statements

  Document provides examples of each for a variety of grade levels and content areas.

- **Connections to specific instructional objectives and approved curriculum.**

  According to Danielson (2007), "A critical feature of a lesson plan is coherence; that is, the different elements of the plan all hang together" (p. 57).

It is the responsibility of each teacher to become knowledgeable of the curriculum utilized by their district. This is a prerequisite step to using lesson plans that are connected to the approved curriculum.

Each aspect of a lesson plan should communicate the learning objective, the learning prerequisites, the sequence of student and teacher activities, the materials required, and the assessment tool and criteria for mastery. Taken together, these parts constitute an end (the objective), the means (what the teacher and students will be doing during the lesson), and an assessment (information about student learning). ***(Refer to Standard III, Element G.)***

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Implements lesson plans based on:

Designing instruction is a different skill from implementing a plan in the classroom, and both skills are critical to the enhancement of learning. On the other hand, even the best-prepared lessons may need modification in the face of real students; so there is, inevitably, a balance between careful planning and flexibility in execution. (Danielson, 2007, p. 57)

- **Student needs.**

  It should be clear from looking at instructional plans how the concepts are developed and how students are to engage with the content. Besides teacher-created plans, it is also important for teachers to think through program-specific lesson plans and adjust them as needed to best meet the needs of *all* students. Anticipating the needs of *all* students before they walk into the classroom helps the teacher make thoughtful decisions related to grouping and differentiation. (*Eagle County Schools Professional Practices Rubric*, 2012, p. 9)

  Any lesson planning must begin with a deep understanding of what each student already knows and can do, and how the instructions is aimed at increasing the progress and levels of achievement for each of the students. The primary concern is to add value to all students, wherever they start from, and to get *all* students to attain the targeted outcomes. (Hattie, 2012, p. 42)

Refer to Standard III, Element A.

- **Colorado Academic Standards.**

The Colorado Academic Standards (CAS) are the expectations of what students need to know and be able to do at the end of each grade. They also stand as the values and content organizers of what Colorado sees as the future skills and essential knowledge for the next generation to be more successful. State standards are the basis of the annual state assessment.

Colorado Academic Standards can be accessed at:
http://www.cde.state.co.us/standardsandinstruction/coloradostandards

Colorado English Language Proficiency Standards can be accessed at:
http://www.cde.state.co.us/CoEngLangProf/StateStandards.asp

Colorado Academic Standards are based on a trajectory of learning across grade levels and within a grade. For students to be successful with these **standards**, instruction at each grade must be aligned to the grade level standards. A strong alignment to academic standards ensures students have opportunities to gain the foundational knowledge and skills necessary for success at subsequent grades as well as to be college and career ready.

Refer to Standard III, Element B.

- **District's plan of instruction.**

Instructional objectives and implementation of instruction should always align to state content standards and district approved curriculum. When developing lesson plans, teachers should reference their district's scope and sequence and/or units of study or curriculum maps.

Refer to Standard III, Elements B and G.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- ☐ **Collaborates with other school staff to vertically and horizontally align, articulate, and deliver the approved curriculum.**

Collaborative analysis of student learning can be the lifeblood of school improvement.
—Georgea Langer and Amy Colten

Planning can be done in many ways, but the most powerful is when teachers work together to develop plans, develop common understandings of what is worth teaching, collaborate on understanding their beliefs of challenge and progress, and work together to evaluate the impact of their planning on student outcomes. One of the major messages from *Visible Learning* is the power of teachers learning from and talking to each other about planning (Hattie, 2012, p. 41).

Collaboration does not happen automatically. Schools must create an environment in which teachers and leaders can feel safe to take risks, ask questions, and accept feedback from peers. Effective norms and protocols for collaboration can help maximize the time teachers are together and ensure teachers are equipped to find solutions that will result in achievement for all students.

According to Langer & Colton (2005), "These skills help teachers and organizations move beyond a 'culture of polite conversation' to deep analysis of teacher and learning." (p. 26)

Refer to Standard III, Element A.

Reference the following external resource for additional information:

- Article: "The Benefits of Teacher Collaboration" by Carla Thomas McClure
  http://www.districtadministration.com/article/benefits-teacher-collaboration
  Article examines the impact of teacher collaboration on student achievement.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element A will be students who perform at a level consistent with or above expectations by interacting with rigorous and challenging content. They will be able to discuss their strengths and next steps with teachers that support them in continuing to meet or exceed expectations.

PROFESSIONAL PRACTICES: STUDENTS:

- **Interact with the rigorous and challenging content.** *(Refer to Standard III, Element E.)*
- **Perform at a level consistent with or above expectations.** *(Refer to Standard III, Elements B and E.)*
- **Discuss strengths and next steps regarding their learning with their teacher(s).** *(Refer to Standard III, Element B.)*

Classroom Examples

4th grade math: Students are working on the Colorado Academic Standard: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. Prior to implementing the lesson, the teacher collaborates with 3rd and 5th grade teachers to learn what misconceptions students have related to this skill so she can plan for how to address this in her lessons. The teacher then references the district's curriculum to plan for a coherent series of lessons. ***(Implements lesson plans based on: Colorado Academic Standards, District's plan of instruction. Collaborates with other school staff to vertically and horizontally align, articulate, and deliver the approved curriculum.)*** The learning objective for the lesson is: Students will be able to solve addition problems for fractions with like denominators and determine if the new fraction is improper. The teacher begins the lesson by reviewing the meanings of numerator, denominator, and improper fraction. ***(Uses lesson plans that reflect: opportunities to review prior learning. Instructional objectives appropriate for students. Connections to specific learning objectives and approved curriculum.)*** The teacher utilizes manipulatives (fraction strips and diagrams) from the district curriculum kits to model two addition problems. The teacher shares her thinking for how she decides if the sum is an improper fraction. Since this is an introductory lesson on adding fractions, students are provided the same manipulatives utilized by the teacher. Working in partners, they solve three addition problems and explain in writing if the sum is an improper fraction. ***(Implements lesson plans based on: Student needs. Students perform at a level consistent with or above expectations.)*** The teacher circulates to check for understanding by asking students to explain their work. She provides feedback and supports students in identifying their next steps. ***(Students discuss strengths and next steps for their learning with their teachers.)***

8th grade science: Students are working on the Colorado Academic Standard: Identify and calculate the direction and magnitude of forces that act on an object, and explain the results in the object's change of motion. The instructional objective is: Students will calculate the direction and magnitude of forces that act on an object, and explain the results in the object's change of motion. ***(Implements lesson plans based on: Colorado Academic Standards. District's plan of instruction. Stated learning objectives.)*** The lesson begins with a review of the process and steps students will follow for conducting experiments. ***(Uses lesson plans that reflect: Opportunities to review prior learning. Instructional objectives appropriate for students.)*** In order to help all students access the instructions for the experiment, the teacher includes picture representations of the various steps of the process. He also provides sentence frames for ELL students to use. ***(Implements lesson plans based on: Student needs.)*** Working in groups of four, students conduct experiments on how objects of different weights impact the motion of a toy car. ***(Students perform at a level consistent with or above expectations.)*** Following each group's completion of its experiments, the teacher meets with students to discuss the results. Students reflect on their strengths in working cooperatively and in conducting the experiments according to instructions. ***(Students discuss strengths and next steps regarding their learning with their teachers.)***

High school language arts: Students are reading the book *Crime and Punishment,* which is on the district's approved list of high school texts. The learning objective is: Students will analyze characters in a literary text in order to explain their conflicting motivations, which is aligned to the Colorado Academic Standard Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme. (CCSS: RL.9-10.3) The teacher begins the lesson with a review of the character, Raskolnikov, and provides quotes from previously read chapters that demonstrate his conflicting motivations. ***(Uses lesson plans that reflect: Opportunities to review prior learning, Instructional objectives appropriate for students. Connections to specific learning objectives and approved curriculum. Implements lesson plans based on: Colorado Academic Standards, District's plan of instruction.)*** Students are then placed into groups of four. Students brainstorm other characters in the novel that exhibit conflicting motivations, like those noted in Raskolnikov. Each group selects a character to analyze based on quotes from the text. Students are told that they will use their analysis to explain how the character advanced the plot of the novel. As students work in their groups, the teacher circulates to ask students to evaluate their progress as a group and individually. Students are able to identify what is working well and what they still need to accomplish to complete their analysis. ***(Students interact with the rigorous and challenging content. Performs at a level consistent with or above expectations. Discuss strengths and next steps regarding their learning with their teachers.)***

Coaching/Self-Reflection Questions

- How will I prioritize which standards to teach (e.g., complexity, highly-tested, most challenging for students to master, district plan for instruction) in this lesson or unit?
- How will I create learning objectives appropriate for my students aligned to the unit of study and standards?
- How will I plan for and implement review of previously learned concepts or skills in my lessons?
- How will I ensure the instruction and student activities align to the learning objective(s) and criteria for student mastery?
- How will I decide what is appropriate to differentiate for this lesson?
- How will I plan to accommodate students' individual interests and needs?
- How do I collaborate with school staff to ensure my planning and instruction support the needs of all students and align with the approved curriculum?
- How will I create opportunities for students to reflect on their strengths and next steps regarding their learning?

Element B

Teachers demonstrate knowledge of student literacy development in reading, writing, speaking and listening.

ALL TEACHERS

This section describes professional practices that should be demonstrated by ALL TEACHERS, regardless of grade level or subject taught.

The power of literacy lies not only in the ability to read and write, but rather in an individual's capacity to put those skills to work in shaping the course of his or her own life.

—Paulo Freire

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in demonstrating knowledge of student literacy development, they must implement lesson plans that integrate literacy with the content being taught. Regardless of the content being taught, the teacher makes complex reading accessible to students at all skill levels. Instruction is provided that enhances students' critical thinking, information literacy, and literacy skill development.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Demonstrates an understanding of literacy content and skills.**

Content literacy can be defined as the ability to use reading and writing for the acquisition of new content in a given discipline. Such ability includes three principal cognitive components: general literacy skills, content-specific literacy skills (such as map reading in the social studies,) and prior knowledge of content. (McKenna & Robinson, 1990, para. 1)

For teachers to demonstrate an understanding of literacy content, they must be knowledgeable of the skills involved in reading and comprehending various types and levels of texts, including the vocabulary, features, and structures of the text. They must also have knowledge of the skills students need for effective oral and written communication.

The teacher demonstrates this understanding by modeling how to apply literacy skills to the content being taught. While there are numerous examples of how literacy skills apply to learning content, below are a few ways this may look in all grade levels and content areas.

- Vocabulary: Modeling how to use picture clues or context clues in the text to define unknown words.
- Structure: Modeling how to use text features in an information text, such as graphics, headings, bold words, etc., to help the reader learn information and comprehend the text.
- Comprehension—Cause and Effect: Modeling how to identify events that cause other events. This may be applied to historical events, scientific events, events that impact a musician's or artist's work, etc.
- Previewing text: Modeling how to preview a text based on the cover, graphics, chapter titles or headings, etc., in order to make connections to the text and gain an understanding of the content.

Refer to Standard I, Element E.

- **Integrates literacy connections into lessons, regardless of content being taught.**

Content-area reading is the reading that a person needs to apply in order to understand texts associated with a particular subject area. The reading associated with content areas other than language arts or reading courses reflects not only the concepts, ideas, and vocabulary important to these subjects, but also the features and structures used in the texts.

To become literate in the content areas, students also need to become effective oral communicators and develop the skills necessary to comprehend a variety of representations, including graphics and electronic media. An important aspect of literacy instruction, especially in social studies, science, and math, is the ability to comprehend graphics, such as diagrams, graphs, timelines, maps, and tables. They can make abstract activities such as comparing and contrasting concrete for students. Students not only need to learn how to comprehend graphics, but they also need to be able to create graphics to communicate their thinking.

Tips for integrating literacy connections:

- Balance fiction with non-fiction reading materials. Early childhood and elementary teachers may use informational text or historical fiction for read-aloud lessons.
    - *Magic School Bus* series to teach science concepts
    - Books for teaching elementary math skills: http://www.the-best-childrens-books.org/math-for-kids.html
    - Books for teaching math in early childhood: http://www.naeyc.org/files/tyc/file/MathbookslistSchickedanzexcerpt.pdf
- Use learning logs or reflection journals in content area subjects.
- Provide opportunities for students to write informational texts, such as reports, procedures (instructions), arguments (persuasion) and explanations, and/or respond to questions in writing by providing text-based evidence.
- Incorporate vocabulary activities that support students in communicating like a mathematician, historian, scientist, musician, artist, etc. This includes having vocabulary displays or visuals available for students to reference.
- Use organizers that support students in identifying main ideas, making inferences, comparing/contrasting, or summarizing what they read.

  Concept mapping helps readers gain a greater understanding of the content by helping them formulate mental plans of comprehending and composing as they read and write. By teaching students to understand text organization plans, content-area teachers enable students to cover meaningful content topics in greater depth and to connect new knowledge with prior knowledge. (Sinatra, 2000)

Reference the following external resource for additional information:

- Article: "Teaching Science Literacy" by Maria Grant and Diane Lapp http://www.ascd.org/publications/educational-leadership/mar11/vol68/num06/Teaching-Science-Literacy.aspx

  Article describes ways to promote literacy in the science classroom.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Makes complex reading accessible to students by:

Why do students need to read complex text?

Text complexity on ACT's Reading tests (the ACT, PLAN, and EXPLORE; covering grades 12, 10 and 8 respectively) was divided into three levels of complexity: *uncomplicated*, *more challenging*, and *complex.* In looking at scores based on this complexity gradient, the following was found:

1. Students scoring below the benchmark (49% of the 568,000 taking the test) scored *no better than chance* on multiple-choice items associated with complex text, the most challenging of the three levels.
2. Only students who obtained nearly perfect scores (35 out of 36) did as well on complex text as they did on the less challenging text, indicating that a significant number of students who met the benchmark still scored relatively poorly on complex text.

Four hundred and sixty eight thousand students took the 2006 ACT exam. All were applying or considering applying to some form of post-secondary education and therefore were likely to engage seriously with

this test. Despite this, 49% , nearly a quarter of a million students, performed no better on the more complex reading passages than if these passages were written in Sanskrit. (Liben, 2010, p. 1)

To prepare students for college and careers, research shows they need to be able to comprehend complex texts in a variety of genres. Supporting students with this skill is the responsibility of all teachers.

Reference the following external resource for additional information:

- Article: "The Challenge of Challenging Text" by Timothy Shanahan, Douglas Fisher and Nancy Frey http://www.ascd.org/publications/educational-leadership/mar12/vol69/num06/The-Challenge-of-Challenging-Text.aspx

  Article provides an explanation for what makes a text challenging with references to Common Core State Standard expectations.

- **Adjusting content to students' skill levels.**

To effectively make complex reading accessible by adjusting the content to meet students' skill levels, the teacher will need to recognize which students need instruction on prerequisite skills in order to be successful with the content being taught and which students have already mastered skills and need to move ahead. The teacher also needs to be knowledgeable of students' Individualized Education Programs (IEPs) and make adjustments to the content accordingly.

Reference the following external resources for additional information:

- Article: "Realizing Opportunities for English Learners in the Common Core English Language Arts and Disciplinary Literacy Standards" by George C. Bunch, Amanda Kibler, and Susan Pimentel http://achievethecore.org/content/upload/understanding_language_realizing_opportunities_for_english_learners_research_ela.pdf

  Article explores strategies for supporting English language learning students in mastering Common Core literacy.
- Document: Elements of Success For All With The CCSS: Grades K-5 Achieve the Core http://achievethecore.org/page/233/elements-of-success-for-all-with-the-ccss-grades-k-5-detail-pg

  Document outlines the key areas in which to support struggling readers. Although the website describes this document as a support for K-5, the key areas are applicable to all grades.
- Website: 15 ways to simplify reading texts maintained by Teflnet http://edition.tefl.net/ideas/read/simplify-reading-texts/

  Website provides ways to make complex texts accessible to second language speakers.
- Website: Content Instruction for ELLs provided by Colorin Colorado! http://www.colorincolorado.org/educators/content/

  Website provides strategies to support second language speakers with accessing complex texts in math, science, social studies, and language arts.

Refer to Standard III, Element A.

- **Integrating literacy skills and knowledge into lessons.**

This practice requires the teacher to not only have an understanding of literacy content and skills, but to integrate this knowledge into lessons in such a way that it enhances students' abilities to access complex texts.

Literacy skills include:

- Phonological awareness
- Phonics
- Vocabulary
- Comprehension
- Fluency
- Writing
- Speaking
- Listening

Disciplinary literacy is defined by the Colorado Academic Standards as "the intersection of content knowledge, experiences, and skills necessary to demonstrate understanding through the ability to read, write, communicate, and think critically using approaches unique to a specific discipline." (Hartman, 2013)

Reference the following external resources for additional information:

- Article: "The Case for Informational Text" by Nell K. Duke
  http://www.arp.sprnet.org/inserv/READING/case_for_informational_text.htm
  Article explains the importance of using informational text with students and describes strategies the teacher may use to support students reading and comprehension.
- Article: "Ways to Teach Informational Text" by Barbara A. Marinak and Linda b. Gambrell
  http://www.personal.psu.edu/bam234/SSYL%20Informational%20Text.pdf
  Article is published by the National Council for the Social Studies and describes ways all teachers can teach students to comprehend informational text.
- Document: Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Appendix A
  http://www.corestandards.org/assets/Appendix_A.pdf
  Document explains the importance of using complex texts in content areas to support student success with the Common Core State Standards.
- Video: Teaching Reading Comprehension through Content Areas
  http://www.ascd.org/ascd-express/vol8/806-video.aspx or
  http://bestpracticesweekly.com/?page_id=580
  Video explains how the teaching of comprehension of compare and contrast was integrated into the teaching of science concepts in a 2nd grade lesson. Supporting documents available on 2nd Website referenced above.
- Video: Common Core in ELA/ Literacy: Shift 2: 6-12: Building Knowledge in the Disciplines
  http://www.engageny.org/resource/common-core-in-ela-literacy-shift-2-6-12-building-knowledge-in-the-disciplines
  Video addresses the benefits of secondary content area teachers in using non-fiction texts to support students' literacy skills.
- Video: Common Core in ELA/ Literacy: Shift 1: PK-5: Balancing Informational Text and Literature
  http://www.engageny.org/resource/common-core-in-ela-literacy-shift-1-pk-5-balancing-informational-text-and-literature
  Video addresses the benefits of elementary teachers in using non-fiction texts to support students' literacy skills.

- **Providing relevant content that addresses students' interests.**

When texts are selected that provide content relevant to students' interests, students are motivated to engage with the text and grapple with complex ideas and reading. When appropriate, students also need some choice in what they read. These choices may be around book topics or choices of books related to a specific topic.

When the teacher takes the time to know students' interests and engages them in conversations on these topics, they interpret this as an indication that the teacher is interested in them and respects them. Teachers can use a variety of methods to obtain information on their students, such as:

- Interest inventories
- Student autobiographies
- Journaling
- Multiple intelligence surveys
- Learning style surveys

The website TextProject, Inc. offers the following acronym for helping the teacher provide relevant content (Hiebert, 2012).

Creating Connections: KNOWS

K	Did I draw on students' existing *knowledge* and experience?
N	Did I identify what *new knowledge* can be gained from this text and guide students in gaining it?
O	Did I support students in *organizing* their new knowledge with their existing knowledge/experiences?
W	Did I show students ways to *widen* their knowledge?
S	Did I support students in *sharing* their knowledge?

Refer to Standard II, Element C.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Provides instruction that enhances students':

- **Critical thinking and reasoning.**

Critical thinking differs from mere acquisition of knowledge or skills in that it involves the application of skills in order to evaluate, analyze, and/or synthesize, information gathered from, or generated by, observation, experience, reflection, reasoning, or communication.

Reference YouTube video, http://www.youtube.com/watch?v=ZLyUHbexz04, for additional explanations of critical thinking.

Characteristics of a critical thinker:

- Asks questions that are clear, on topic, and enhance learning.
- Is open-minded and aware of different perspectives and alternatives.
- Evaluates credibility and relevancy of information.
- Interprets information and uses to develop well-reasoned conclusions and solutions.
- Is able to develop an evidence-based opinion and reasonably defend it.
- Communicates effectively with others in figuring out solutions to complex problems.

Ideas for providing instruction that enhances students' critical thinking:

- Have students apply content they are learning to previous knowledge, real-world situations, and/or other disciplines.
- Focus on fundamental and powerful concepts with high generalizability as tools for learning and application.
- Provide opportunities for students to select learning strategies that best fit the skill required as well as their own learning preferences. ***(Reference Standard III, Element A.)***

Reference the following internal resource for additional information:

- Common Core State Standards and Critical Thinking

  Document describes how the Common Core State Standards require students to be able to think and read critically.

Refer to Standard III, Element E.

- **Information literacy.**

Information literacy is the ability to identify the information one needs for a given purpose and then evaluate the most appropriate sources to use for that purpose. It is the knowledge needed to research or gain knowledge on a given topic.

Students are surrounded by an ever increasing amount of information from a multitude of sources. However, not all information is created equal: some is authoritative, current, reliable, but some is biased, out of date, misleading, and false. The teacher cannot teach students all the information they need to know; therefore, students must learn how to evaluate information regardless of the format so they can discern what is accurate and appropriate for their use.

Reference the following external resources for additional information:

- Article: "Literacy for the Information Age" by Renee Hobbs
  http://www.ascd.org/publications/classroom-leadership/oct2000/Literacy-for-the-Information-Age.aspx

  Article explains the importance of helping students become media literate along with strategies for teaching information literacy.
- Article: "Information Literacy and the World Wide Web" by Michael O'Sullivan and Thomas J. Scott
  http://www.ascd.org/publications/classroom-leadership/oct1999/Information-Literacy-and-the-World-Wide-Web.aspx

  Article provides ideas for how to support students in evaluating information on the web, including a form for this process.
- Article: "Teaching Adolescents How to Evaluate the Quality of Online Information" by Julie Coiro
  http://www.edutopia.org/blog/evaluating-quality-of-online-info-julie-coiro

  Article describes four strategies for supporting student evaluation of online information.
- Website: S.O.S for Information Literacy a project of the Center for Digital Literacy at Syracuse University
  http://www.informationliteracy.org/

  Website provides resources, including lesson plans, handouts, presentations, and videos to support the teaching of information literacy in grade K-12.

- **Literacy skill development.**

In their article, "Teaching Disciplinary Literacy to Adolescents: Rethinking Content," Timothy and Cynthia Shanahan provide the following definitions related to literacy skill development.

- Basic Literacy: Literacy skills such as decoding and knowledge of high-frequency words that are found in virtually all reading tasks.
- Intermediate Literacy: Literacy skills common to many tasks, including generic comprehension strategies, common word meanings, and basic fluency.
- Disciplinary Literacy: Literacy skills specialized to history, science, mathematics, literature, or other subject matter.

Reference the following external resources for additional information:

- Article: "Teaching Disciplinary Literacy to Adolescents: Rethinking Content" by Timothy and Cynthia Shanahan
  http://www.missionliteracy.com/page79/page92/assets/Teaching%20Disciplinary%20Literacy%20Shanahan%202008.pdf
  Article describes the findings from two years of research and concludes that advanced literacy instruction should be embedded within content-area classes such as math, science, and social studies.
- Article: "Integrating Writing and Mathematics" by Brad Wilcox and Eula Ewing Monroe
  http://www.readingrockets.org/article/52243
  Article provides strategies for the integration of writing and mathematics.
- Website: readwritethink maintained by the International Reading Association and National Council of Teachers of English
  http://www.readwritethink.org/
  Website provides instructional resources specific to many aspects of literacy development and instruction, including a variety of suggestions for integrating writing across the curriculum.
- Video: Reading Like a Historian
  https://www.teachingchannel.org/videos/reading-like-a-historian-curriculum
  Video explains how reading like a historian can support students in developing critical thinking skills while engaging in historical inquiry.

For additional information related to Element B ALL TEACHERS reference the following resources:

- Website: Content Connection Samples (Kindergarten through 5th Grade) Colorado Department of Education
  http://www.cde.state.co.us/ContentAreas/ContentConnections/index.asp
  Website provides examples of cross-content (multi-disciplinary) connections within the Colorado Academic Standards at grades kindergarten through 5th.
- Website: Literacy by Design
  http://www.ldc.org/
  Website, Literacy Design Collaborative (LDC), offers a research based approach to teaching of literacy in all content areas in grades K-12.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element B ALL TEACHERS will be students who are able to apply literacy skills to understand complex materials and share their understanding effectively through oral and written communication.

Professional Practices: Students:

Meet or exceed expectations for:

- **Oral communication.**
- **Written communication.**
- **Critical thinking.**
- **Problem solving skills.**
- **Literacy skills.**
- **Apply literacy skills to understand complex materials.**

Classroom Examples

Elementary physical education: Students are learning how to play kickball. The teacher emphasizes the importance of students following directions so they can safely play the game. He displays a chart with the directions and safety rules. He labels the chart as an example of a "How-to Text or Procedural Text". Photographs of each direction and rule are included as a support for students who are second language speakers or on lower reading levels. The vocabulary associated with kickball is taught and related to the game of baseball to help students make connections. ***(Demonstrates an understanding of literacy content and skills. Integrates literacy connections into lessons, regardless of content being taught.)*** Before students play the game, the teacher has students share with a partner the directions and rules. He reminds them to use the vocabulary associated with kickball in their conversations. The lesson concludes with students labeling a picture of a kickball field.

Elementary math: During a unit on graphing, the teacher reads the book *The Great Graph Contest* by Loreen Leedy. The book is about graphs, surveys, pie charts, and Venn diagrams. The teacher introduces the book with a picture walk to preview for students what they will be learning. Vocabulary associated with different types of graphs is displayed along with examples of each. ***(Demonstrates an understanding of literacy content and skills. Integrates literacy connections into lessons, regardless of content being taught.)*** As the teacher reads, he models how he would answer the following questions: "What type of graph did the lizard and frog create?" and "Why did the two characters make a graph?" before asking students the same questions. These questions continually reinforce the purpose of graphs. ***(Provides instruction that enhances students': Literacy skill development.)*** After reading the book, students conduct a "graph hunt" using newspapers, brochures, magazines, and non-fiction books. The students have previously been introduced to each type of text and its purpose. ***(Makes complex reading accessible to students by: Integrating literacy skills and knowledge into lessons.)*** As they hunt for graphs, students complete a chart to record each type of graph found and the text in which it was located. This information will be used in future lessons for students to create their own graphs based on survey questions they develop.

Middle school social studies: Students are learning about the Yukon Gold Rush as a means of exploring the essential questions: How is human activity limited by the environment? How has the environment influenced human activity? The teacher begins the lesson by posing the essential questions to students and facilitating a Socratic Seminar. She guides the discussion by asking students to think of examples, within and outside of social studies, where human activity has been limited by the environment and the environment has influenced human activity. She connects this idea to climate and weather and the human impact on the environment. She asks students to recall the literary texts *Call of the Wild* and *To Build a Fire* by Jack London and information from a video presented in language arts. ***(Integrates literacy connections into lessons, regardless of content being taught.)*** Students are encouraged to build on each other's ideas and ask clarifying and probing questions to their peers. ***(Provides instruction that enhances students': Critical thinking and reasoning.)*** After the Socratic Seminar, the teacher asks students to read a selection of primary documents on the Yukon Gold Rush and the hardships miners faced. To support reading comprehension, the teacher asks students to apply the school-wide literacy strategy "Claim, Evidence, So what?" to each document, identifying the claim in the document, providing evidence that supports the claim, and giving a short analysis about why the claim matters within the context of the text. ***(Demonstrates an understanding of literacy content and skills. Makes complex reading accessible to students by: Integrating literacy skills and knowledge into lessons. Provides instruction that enhances students': Information literacy. Literacy skill development.)*** As an exit ticket, students respond, individually, to the two essential questions from the beginning of class, drawing upon evidence from the discussion and the texts.

Refer to Standard III, Element E for how this classroom example also aligns to this element.

High school social studies: Students are learning about immigration in the 1860's. Primary sources from the 1860's, along with current news articles about immigrants and refugees, are used as part of the teacher's instruction. ***(Integrates literacy connections into lessons, regardless of content being taught.)*** Student tasks include researching the impact of immigration on their community and communicating their findings through graphs and tables. Students also select someone they know who has immigrated to the United States to interview.

Using information from the news articles, research, and interviews, students make comparisons between immigrants of the 1860s and immigrants of today (reasons for immigrating, countries of origin, experiences, etc.). ***(Provides instruction that enhances students': Critical thinking and reasoning. Information literacy. Literacy skill development.)***

Refer to Standard III, Element E for how this classroom example also aligns to this element.

Coaching/Self-Reflection Questions

- How will I integrate literacy into the content I teach?
- How will I select complex texts for instructional use and for students to read?
- How will I adjust content to ensure all students have access to complex texts?
- How will I provide content that is relevant and addresses students' needs so that all students have access to complex texts?
- How will I provide instruction that enhances students' critical thinking and reasoning?
- How will I provide instruction on information literacy?
- How will I develop students' literacy skills?

Teachers demonstrate knowledge of student literacy development in reading, writing, speaking and listening.

ELEMENTARY AND SECONDARY TEACHERS

This section describes professional practices that should be demonstrated by ELEMENTARY TEACHERS responsible for teaching language arts and/or reading and SECONDARY TEACHERS responsible for teaching English, language arts and/or reading.

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in demonstrating knowledge of student literacy development, they must integrate literacy skills into instruction that is purposeful, explicit, and systematic. Literacy instruction must also be based on student needs, intensive and of sufficient duration to accelerate student learning. The elementary teacher will also emphasize literacy connections to other subject areas, and the secondary teacher will provide opportunities for students to apply literacy skills.

NOTE: For Element B, ELEMENTARY TEACHERS and SECONDARY TEACHERS, the professional practices are referenced together. When a practice or content refers to only one level, it is appropriately designated.

The power of literacy lies not only in the ability to read and write, but rather in an individual's capacity to put those skills to work in shaping the course of his or her own life.

—Paulo Freire

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Emphasizes literacy connections while teaching to other subject areas while teaching reading, English, or language arts. (ELEMENTARY TEACHERS)**

Content literacy can be defined as the ability to use reading and writing for the acquisition of new content in a given discipline. Such ability includes three principal cognitive components: general literacy skills, content-specific literacy skills (such as map reading in the social studies) and prior knowledge of content. (McKenna & Robinson, 1990, para. 1)

Readers apply different reading strategies and prior knowledge based on the genre and topic of the text. For this reason, it is important that teachers help students learn how to "tackle" their particular content area's texts by making connections to literacy skills regardless of the content being taught.

Examples of literacy connections:

- Vocabulary: Connecting the use of picture clues, or context clues, to define unknown words when reading texts in other content areas. Applying knowledge of root words and affixes to determine the meanings of unknown words in content-specific texts.
- Structure: Having students use text features in an information text, such as graphics, headings, bold words, etc., to locate information on the topic being taught.
- Comprehension—Cause and Effect: Connecting comprehension skills, such as cause and effect to other texts or events. This may be applied to historical events, scientific events, or cause and effect in math.
- Phonological awareness and phonics: Connecting the concepts of syllables, rhymes, and/or letter sounds to help students decode words they see in all content areas. For example, when reading math word problems, science experiments, social studies or science texts, students need to have opportunities to apply skills for decoding words.

- **Teaches and provides opportunities for students to apply literacy skills. (SECONDARY TEACHERS)**

Once a literacy skill has been taught, students must have opportunities to apply the skills to a variety of texts and types of communication in order to transfer these skills to new or unfamiliar material. By continually providing opportunities for students to apply skills recently taught as well as previously taught, students can gain a deeper understanding of the mind of a reader and writer and how the skills learned support their literacy development. They can also begin to develop an awareness of the skills that best support their understanding of complex materials and communication skills in order to independently use them.

Examples of application of literacy skills:

- Vocabulary development: Student use of context clues, glossaries, dictionaries, or concept maps such as the Frayer model (http://www.readingeducator.com/strategies/frayer.htm) when they encounter new vocabulary orally or in texts. Students may also maintain personal dictionaries or vocabulary cards they can reference when reading and writing.
- Annotating text: The skill of annotating a text supports students in comprehending a text in order to gain content information. Purposes for annotating a text:
    - Locate evidence to support a claim.
    - Identify main idea and supporting details.
    - Analyze the validity of an argument or counter-argument.
    - Determine author's purpose.
    - Identify character traits/motivations.
    - Summarize and synthesize.
    - Define key vocabulary.
    - Identify patterns and repetitions.
- Answering questions: Applying strategies that support students in responding to text-dependent questions and constructed response questions. One of the key shifts in the Colorado Academic Standards is the expectation for students to cite text-based evidence when responding to questions. Students need multiple opportunities to apply this skill across a variety of genres to be successful with this shift.

Visuals that capture the steps or key concepts of literacy skills taught can be an effective way to provide continual support for student application of these skills. As the secondary teacher provides instruction on new skills, referring to these visuals can help students make connections to previously taught skills and communicate the expectation for students to apply these to new materials and situations.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Integrates literacy skills into lessons, including:

- **Phonological awareness. (ELEMENTARY TEACHERS)**

  - Phonological awareness refers to a person's ability to recognize component speech sounds that make up spoken words. Essentially, words can be separated in three ways. The easiest is by syllable — rab-bit. A second way involves separating words into onsets (initial consonant[s]) and rime (the vowel and what follows) — cat = C/AT. The third (and most difficult) way to demonstrate phonological awareness is by dividing words into phonemes, or individual sounds — cat = C/A/T. Phonological awareness is essential for learning phonics. Colorado Department of Education: http://www.cde.state.co.us/coreadingwriting/resources

Reference the following external resources for additional information:

- Website: National Center for Reading First Technical Assistance
  http://www.cde.state.co.us/sites/default/files/documents/coloradoliteracy/crf/downloads/lesson_maps/templates/templates_revised_08.15.07.pdf
  Website provides a sequenced set of phonological awareness activities to help teachers scaffold early reading instruction.
- Website: Phonological Awareness
  http://www.phonologicalawareness.org/
  Website provides a variety of developmentally sequenced phonological awareness activities.

- **Phonics. (ELEMENTARY TEACHERS)**
  Phonics typically refers to study that stresses letters and the sounds they represent. This word is also used to describe reading and/or spelling instruction that teaches sound-symbol correspondences. Colorado Department of Education: http://www.cde.state.co.us/coreadingwriting/resources

Reference the following external resources for additional information:

- Website: SoftSchools.com
  http://www.softschools.com/language_arts/phonics/
  Website provides numerous materials and activities for the teaching of phonics.
- Website: Phonics Printable Worksheets and Activities (Word Families) maintained by Kidzone DLTK's Inc.
  http://kidzone.ws/phonics/index.htm
  Website provides printable materials for the teaching of phonics.

- **Vocabulary.**

"We think with words, therefore to improve thinking, teach vocabulary."—A. Draper and G. Moeller

Students differ greatly in the size of their vocabularies when they enter school and as they continue through the grades. These differences are attributed to many factors, including the amount of talking that occurs within the home, the native language of the student and family, the amount of reading materials in the home, and the amount of reading a student does independently. However, vocabulary acquisition is crucial for students' academic and career success. Therefore, vocabulary instruction should be an essential element of literacy instruction at all grade levels.

The more a student's vocabulary increases, the easier it becomes for him to make connections to new words. When learning how to use context clues or affixes, students must be able to use what they already know about words to determine the meaning of unknown words they encounter in texts and oral communication.

Elements of effective vocabulary instruction:

- Multiple and varied encounters with words: It takes a minimum of 15 encounters with a new word for a student to understand and apply the word independently.
- Visual representations: Vocabulary development increases when students have visual images of words. The use of visuals is especially important when vocabulary words are initially taught. As students learn new words, it is important for them to create their own visual representations.
- Use of vocabulary: For new vocabulary words to become part of students' reading and communication, they must have numerous opportunities to utilize the words. The teacher must communicate this expectation and model utilizing the words in their conversations with students.
- Word strategies: Students should be taught strategies for learning new words independently, such as instruction in word parts, context, and use of reference tools.

(Adapted from Cunningham, 2009)

When vocabulary instruction is limited to rote copying of definitions, transference of word learning is limited.

Reference the following external resources for additional information:

- Article: "Identifying Academic Language Demands in Support of the Common Core Standards" by Susan O'Hara, Robert Pritchard, and Jeff Zwiers
  http://www.ascd.org/ascd-express/vol7/717-ohara.aspx
  Article discusses the focus on academic language in the Common Core State Standards, and emphasizes the need for vocabulary instruction for ELL students.
- Article: "The Words Students Need" by Joshua F. Lawrence, Claire White, and Catherine E. Snow
  http://www.serpinstitute.org/2013/files/5713/9515/9209/the_words_students_need.pdf
  Article explains the importance of vocabulary instruction and the impact on middle school students. Links to resources for vocabulary instruction are included.
- Document: Academic Vocabulary and CCSS by the Aspen Institute
  http://www.aspendrl.org/portal/browse/DocumentDetail?documentId=1416&download
  Document defines academic vocabulary, provides a checklist for selecting academic vocabulary, and discusses the connection of academic vocabulary and text-dependent questions.
- Website: abcteach
  http://www.abcteach.com/directory/teaching-extras-word-walls-2235-2-1
  Website provides vocabulary cards connected to multiple content areas the teacher may use for instruction and/or word walls. **(ELEMENTARY TEACHERS)**

- **Comprehension.**

  The RAND Reading Study Group defined reading comprehension as "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language (2002, p. xiii). Colorado Department of Education:
  http://www.cde.state.co.us/coreadingwriting/resources#comprehension

One of the literacy shifts represented in the Colorado Academic Standards is the increased use of complex texts, both fiction and non-fiction. For students to be successful with the evidence outcomes listed under the Standard, Reading For All Purposes, they must be aware of the thinking, or meta-cognitive, strategies readers apply in order to comprehend texts.

> The research on comprehension strategy instruction provides powerful evidence that most struggling readers (and most not-so-struggling readers) benefit enormously when we can construct lessons that help make the comprehension process visible. Many students only develop the strategies they need with much instructional support. These students need demonstrations, effective strategy use, and lots of opportunities to apply the demonstrated strategy over time and in multiple situations. (Allington, 2005) The goal of comprehension instruction should be "on the development of transferable strategies" that promote the "independent use of effective thinking while reading" (Allington, 2005, p. 120).

…a think-aloud of reading is creating a record, either through writing or talking aloud, of the strategic decision-making and interpretive processes of going through a text, reporting everything the reader is aware of noticing, doing, seeing, feeling, asking, and understanding as she reads. A think-aloud involves talking about the reading strategies you are using and the content of the piece you are reading. (Wilhelm, 2001, p. 19)

Reference the following external resources for additional information:

- Article: "Promoting Reading Comprehension in Secondary Students with LD" prepared by Marcia Kosanovich,Ph.D.
  http://www.council-for-learning-disabilities.org/publications/infosheets/promoting-reading-comprehension-in-secondary-students-with-learning-disabilities
  Article describes strategies that can support the comprehension of secondary students with learning disabilities. **(SECONDARY TEACHERS)**
- Website: Comprehension: Reading Rockets sponsored by WETA Public Broadcasting
  http://www.readingrockets.org/teaching/reading101/comprehension
  Website provides links to articles and videos on instructional strategies for teaching comprehension.
- Website: Literacy by Design
  http://www.ldc.org/
  Website, Literacy Design Collaborative (LDC), offers a research-based approach to teaching of literacy in all content areas in grades K-12.

- **Fluency.**

Fluent reading is defined as the ability to access text with appropriate rate, accuracy, and prosody. Reading rate refers to the speed at which readers move through text. Accuracy refers to the ability to read without miscues. Finally, prosody is considered a critical component of oral reading fluency. Prosody is the ability to read with appropriate phrasing and intonation. The ability to read with good prosody depends on automatic, accurate word recognition.
Adapted from Colorado Department of Education:
http://www.cde.state.co.us/coreadingwriting/resources

Reference the following external resource for additional information:

- Document: Determining Who Needs Fluency Training
  http://www.cde.state.co.us/sites/default/files/documents/coloradoliteracy/crf/downloads/prodev/lst/determining_who_needs_fluency_training.pdf
  Document is provided by the Colorado Department of Education as a tool for identifying students who need support with fluency instruction.

- **Writing.**

"If you cannot write well, you cannot think well, and if you cannot think well, others will do your thinking for you."—George Orwell

Writing helps students make sense of what they are learning. It helps them make connections to their own lives or others' ideas. Students cannot write without thinking about what they want to communicate.

Students should demonstrate increasing sophistication in written expression as they progress through school. Student writing should require the use of text-based evidence gleaned from increasingly demanding texts as the students move through school. Students advancing through the grades are

expected to master the Colorado Academic Standards and further develop skills and understandings mastered in preceding grades.
Adapted from Colorado Department of Education
http://www.cde.state.co.us/coreadingwriting/resources#top

Elements of effective writing instruction:

- Modeling: Students need to see and hear how the mind of a writer works. This includes the teacher modeling how writers come up with ideas for their writing and then select topics based on their audience. It also includes how writers revise and edit their writing in order to communicate clearly and appropriately with their audience.
- Using **mentor texts:**
  Teaching writing starts with giving students well-written texts. The importance of using mentor texts is in the analysis that naturally comes through the conversation that follows the reading, in the transaction with the text. As students note what a writer does well, they are, at the same time, creating a menu of options they can use in their own writing (Anderson, 2014).

Reference the following external resources for additional information:

- Article: "Making the Most of Mentor Texts" by Kelly Gallagher
  http://www.ascd.org/publications/educational-leadership/apr14/vol71/num07/Making-the-Most-of-Mentor-Texts.aspx
  Article explains the importance of using mentor texts to teach writing and includes strategies for their instructional use.
- Video: Teaching Students to Examine Craft Moves and Author's intent in Mentor Persuasive Essay in Order to Support Revision (5-8) sponsored by the Teacher's College Reading and Writing Project
  http://vimeo.com/56066196
  Video provides an example of classroom instruction to improve argumentative writing by analyzing a mentor text.

- Providing choice: When students are able to choose about which they write, they can become more passionate and motivated to write. Students can also be given choices about their audience. This may include students in another grade or community, their peers, adults in the school or community, or the global community.
- Revising and editing: Students need to know that writing is a process. All writers continually revise and edit their work in order to make it more meaningful and clear for the reader. By revising for sentence structure and use of vocabulary, and editing for spelling and punctuation, students can learn not only the art of writing but the craft of writing as well.

Reference the following external resources for additional information:

- Article: "Argumentative v. Persuasive Writing"
  http://www.smekenseducation.com/argumentative-v-persuasive-writing.html
  Article explains the difference between argumentative and persuasive writing and strategies for teaching this difference. **(SECONDARY TEACHERS)**
- Document: Common Core Standards Appendix C
  http://www.corestandards.org/assets/Appendix_C.pdf
  Document provides examples of writing for grades K-12 that can be used by teachers to norm on writing rubrics and to deepen their understanding of Colorado Academic Standards and Common Core writing expectations.
- Document: Definitions of the Common Core Standards three text types of Writing Instruction
  http://hedstromlanguagearts.weebly.com/uploads/1/0/9/8/10984081/6_la_cc__gps_3_writing__texts__explained_.pdf
  Document provides definitions for each writing type referenced in the Common Core State Standards.

- Website: Reading Rockets
  http://www.readingrockets.org/reading-topics/writing
  Website provides strategies and materials for the teaching of writing. Included are videos and tips for parents in both English and Spanish.
- Website: readwritethink (maintained by the International Reading Association and National Council of Teachers of English)
  http://www.readwritethink.org/
  Website provides instructional resources specific to many aspects of literacy development and instruction, including a variety of suggestions for the teaching of writing.
- Video: Analyzing Texts Putting Thoughts on Paper Grade 5
  https://www.teachingchannel.org/videos/analyzing-text-writing
  Video shows students responding to a text by analyzing an author's viewpoint with scaffolds for ELL learners.

- **Speaking.**
- **Listening skills.**

Speaking and listening skills are essential components of communication. The ability to communicate effectively and purposefully affects students' academic performance, relationships, and their preparation for college and career.

Providing opportunities for students to engage in conversations, in small- or large-group settings, does not automatically result in their development of these literacy skills. Students need instruction that includes models and application of effective speaking and listening skills in order to clearly articulate their thinking through oral communication.

The Colorado Department of Education lists the following expectations for every student to ensure they are college and career ready.

- Collaborate effectively as group members or leaders who listen actively and respectfully pose thoughtful questions, acknowledge the ideas of others, and contribute ideas to further the group's attainment of an objective.
- Deliver organized and effective oral presentations for diverse audiences and varied purposes.
- Use language appropriate for purpose and audience.
- Demonstrate skill in inferential and evaluative listening.

Strategies for integrating speaking and listening skills:

- Interviews: Students are given a specific topic to research, such as "The importance of writing in the workplace or media." Students may interview individuals who work for the local newspaper or television station. Students may also interview song writers or other authors to learn about the process they apply to their writing. Students in reading class may interview individuals based on the time period being studied, or they may take on the role of a character in a text and be interviewed by their peers. Students should be provided an opportunity to write a mixture of open and closed questions for their interviews, then synthesize their findings and share them with the class.
- Debates: Students are divided into groups. The teacher presents a proposition connected to the topic being taught, such as, "Macbeth was not solely responsible for his actions." Students in one group argue for the proposition and the others against it. Students should be given time for preparation so they can develop their reasons with evidence and examples to make their case. The teacher needs to establish guidelines and time limits for each side to argue their case while the other side listens. The activity may conclude with each side evaluating the other's case or with a writing assignment in which each student presents her individual argument.

- Paired talk: Students are asked a question that is open ended or has multiple correct responses which they discuss with a peer. The teacher can support students' speaking and listening skills by modeling the vocabulary and academic talk they are expected to use. By listening to others, they can refine their ideas by building on the thoughts of others.

Reference the following external resources for additional information:

- Article: "More than Words: Developing Core Speaking and Listening Skills" by Jessica Roake and Laura Varlas
  http://www.ascd.org/publications/newsletters/education-update/dec13/vol55/num12/More-than-Words@-Developing-Core-Speaking-and-Listening-Skills.aspx
  Article explains the importance of integrating speaking and listening instructional strategies.
- Website: Speaking and Listening sponsored By Teaching Ideas
  http://www.teachingideas.co.uk/english/contents_speakinglistening.htm
  Website provides strategies for teaching speaking and listening skills. **(ELEMENTARY TEACHERS)**

Reference the following internal resources for additional information:

- Sentence Starters for Teaching Students Accountable Talk
  Document provides sentence starters for teaching students how to communicate in academic conversations.
- Listening Skills
  Document describes the process of active listening and provides ideas for teaching the skill of listening.

Refer to Standard III, Element G.

Engages students in instruction that is:

- **Purposeful.**
- **Explicit.**
- **Systematic.**

Instruction that is purposeful, explicit, and systematic is focused on a specific learning objective that is communicated to students. The teacher provides purpose for student learning by explicitly connecting the objective to students' prior knowledge, future learning, other disciplines, and/or life experiences. Students understand why they are learning a specific skill or concept and how it impacts their lives.
Key concepts are labeled in a clear and concise manner so students can focus on the most important concepts or ideas they need to learn in order to master the content being taught. The teacher avoids introducing random facts or ideas that are not connected to the learning objective and can lead to confusion in students.

When the teacher breaks down the key concepts into manageable parts in a sequential and systematic manner, it allows students to build success with each part in order to develop mastery of the content being taught. By teaching each part systematically, and assessing along the way, the teacher is better equipped to identify misconceptions and adjust instruction during the learning process.

The teacher who engages students in purposeful, explicit, and systematic instruction is intentional about each decision made. The instructional methods implemented, the materials utilized, and the tasks in which students will engage are strategically selected and used in a purposeful manner that supports and enhances student learning and independence.

Refer to Standard I, Element D.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Provides literacy instruction that is:

- **Needs-based.**

Literacy instruction that is needs-based is differentiated based on the academic levels, language, and learning preferences of students. Differentiated literacy instruction cannot be limited to the instruction used for students with disabilities, but rather the instruction that is used to teach literacy skills to all students. Therefore, the teacher must be aware of the needs of each student and how a district, or school literacy curriculum, can be utilized to meet these needs.

> For differentiation to be effective, teachers need to know where each student begins and where he or she is in his or her journey towards meeting the learning objectives of a lesson. Depending on a student's progress towards the objective, their understanding of procedural skills and conceptual understandings, their level of motivation, and their strategies for learning, the teacher will have to provide different ways in which students can demonstrate mastery and understanding along the way to meeting the objective. The key is for teachers to have clear reasons for differentiation, and relate what they do differently to where the student is located on the progression from novice to capable, relative to the learning objective and criteria for mastery. For this to occur, the use of frequent formative assessments is needed to monitor each student's progress towards the criteria. (Hattie, 2012, p. 109)

Literacy instruction that is needs-based may include:

- Providing instruction in phonological awareness or phonics based on students' languages and/or knowledge of letter sounds.
- Differentiating vocabulary words that are explicitly taught based on students' languages and/or speaking and reading vocabularies.
- Selecting texts for instruction and student application of skills based on Lexile levels, comprehension skills, and/or interests.
- Segmenting the use of a text to support student comprehension and fluency. This may include "chunking" the text differently based on student needs.
- Adjusting the pacing of a lesson to allow students additional time with a text or to accelerate student learning as needed.

Reference the following external resources for additional information:

- Article: "Realizing Opportunities for English Learners in the Common Core English Language Arts and Disciplinary Literacy Standards" by George C. Bunch, Amanda Kibler, and Susan Pimentel
  http://achievethecore.org/content/upload/understanding_language_realizing_opportunities_for_english_learners_research_ela.pdf
  Article explores strategies for supporting English language learning students in mastering Common Core literacy.
- Document: Elements of Success For All With The CCSS: Grades K-5 Achieve the Core
  http://achievethecore.org/page/233/elements-of-success-for-all-with-the-ccss-grades-k-5-detail-pg
  Document outlines the key areas in which to support struggling readers. Although the Website describes the document as a support for K-5, the key areas are applicable to all grades.
- Website: 15 ways to simplify reading texts (maintained by Teflnet)
  http://edition.tefl.net/ideas/read/simplify-reading-texts/
  Website provides ways to make complex texts accessible to second language speakers.
- Website: Content Instruction for ELLs provided by (Colorin Colorado!)
  http://www.colorincolorado.org/educators/content/
  Website provides strategies to support second language speakers with accessing complex texts in math, science, social studies, and language arts.

- **Intensive.**

Instruction that is **intensive** provides students with opportunities to deepen their knowledge of the content being taught so they can develop conceptual understandings that lead to independent application of skills.

Characteristics of intensive instruction:

- Instruction is broken down in a systematic manner that allows students to master all of the key concepts of the content taught.
- Connections are made to previous learning and students' experiences that allow students to build on prior knowledge and successes.
- Models are provided for how the content taught can be applied to reading, writing, and/or communications skills students need to develop. The thinking process they need to apply is clearly labeled so students understand what they are to do, how they are to do it, and why it is important.

- **Of sufficient duration to accelerate learning.**

Within each unit of study or lesson, students need sufficient time to observe the "expert" reader or writer, the teacher, apply the literacy skills being taught. Instruction that is of sufficient duration includes time for the teacher to provide intensive instruction and time for students to apply the skills with others and independently. Therefore, the duration of the instruction is dependent on the content being taught and the age and needs of the students. This applies to whole-group instruction as well as small-group instruction.
Instruction can lead to accelerated learning when students are allowed to learn in their preferred style and in a manner that challenges their thinking and promotes the acquisition of knowledge.

Factors that promote students in accelerating their learning:

- Positive Learning Environment: Students learn best in a positive physical, emotional, and social environment — one that promotes safety and risk-taking and values individual differences.
- Engagement: Students need to be actively involved in the learning process and take responsibility for their own learning. Knowledge is not something students can passively absorb.
- Collaboration: Students need opportunities to share their thinking with others. Learning is a shared experience that involves peer collaboration and communication in which students learn from one another.
- Choices: Students are more motivated to learn when they have a variety of materials and tasks from which to choose based on their interests, learning preferences and academic needs.

Reference the following external resources for additional information:

- Article: "The Six Ts of Effective Elementary Literacy Instruction" by Richard Allington
  Retrievable at http://www.readingrockets.org/article/96/
  Article: describes Allington's research on what matters most in teaching kids to read based on observations of effective and expert teachers. **(ELEMENTARY TEACHERS)**
- Article: "Making Reading Relevant for Adolescents" by Thomas W. Bean
  http://www.ascd.org/publications/educational-leadership/nov02/vol60/num03/Making-Reading-Relevant-for-Adolescents.aspx
  Article describes ways the teacher can motivate secondary students to engage in recreational reading. **(SECONDARY TEACHERS)**
- Website: Achieve the Core
  http://achievethecore.org/
  Website provides a variety of resources for teaching the Common Core State Literacy Standards.

Suggested books on literacy instruction:

- *7 Keys to Comprehension How to Help Your Kids Read It and Get It!* by Susan Zimmerman and Chryse Hutchins
- *Comprehension Shouldn't be Silent From Strategy Instruction to Student Independence* by Michelle J. Kelley and Nicki Clausen-Grace
- *Improving Comprehension with Think-Aloud Strategie*s by Jeffrey D. Wilhelm
- *What Really Matters in Vocabulary Research-Based Practices across the Curriculum* by Patricia M. Cunningham

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element B, ELEMENTARY and SECONDARY TEACHERS will be students who are able to apply literacy skills to new and unfamiliar material, including communication with others in a manner that exceeds the teacher's expectations for their age, grade, and ability level.

Professional Practices: Students:

Apply literacy skills *(reading, writing, speaking, listening):*

- **To new/unfamiliar material.**
- **While communicating during unstructured time. (ELEMENTARY TEACHERS)**
- **While communicating during the school day. (SECONDARY TEACHERS)**

Exceed teacher's expectations for students of the age, grade, and/or ability levels in:

- **Reading.**
- **Writing.**
- **Speaking.**
- **Listening.**

Classroom Examples

Early childhood word study: Students are working on using onsets and rimes to create new words (e.g., use the rime "ip" to make dip, lip, slip). As the teacher reads a book with "ip" words from the Website, Reading A to Z, she has students identify the words they hear with the "ip" rime. She also has them listen to how she is able to read without stopping because she knows how to decode the words. After reading the book, the teacher and students review the words and sounds the letters make. ***(Integrates literacy skills into lessons, including: Phonological awareness. Fluency.)*** Students discuss with their shoulder partner why it is important to know letter sounds. The teacher summarizes the student responses before moving on with the lesson to give the students an opportunity to reflect on what they have learned so far. She then has them create new words using the rime "ip." During independent practice, the teacher works with a group of students that is still learning letter sounds. ***(Provides instruction that is: Needs-based. Intensive. Of sufficient duration to accelerate learning. Students apply literacy skills: To new/unfamiliar material.)*** The lesson closes with the teacher and students making connections to how they can use their knowledge of letter sounds to read words in the math and science centers. ***(Emphasizes literacy connections to other subject areas while teaching, reading, English or language arts.)*** (*Eagle County Schools Professional Practices Rubric*, 2012, p. 25).
Resource for teaching the "ip" rime: http://www.littlebooklane.com/SF1/ipSet.pdf

Elementary reading: Students are learning how to compare different characters' points of view from the novel *Grandpa's Mountain* by Carolyn Reeder. The teacher begins each lesson with a review of previously taught vocabulary and introduction of new vocabulary. Along with tier two words students need to master, the teacher selects words related to the setting of the book which is very different from students' environment. The teacher knows that students will need to apply the strategy of inferring in order to master the learning objective. He models the strategy for students and completes a graphic organizer that includes text evidence, along with what he knows about the characters and his own experiences to make an inference about a character's points of view. He does this for two characters. ***(Integrates literacy skills into lessons, including: Vocabulary. Comprehension.)***

Before modeling how to compare the character's perspectives, he reviews with students the thinking process applied to infer the two perspectives. After modeling the comparison, he engages students in a guided practice of the same process. *(Engages students in instruction that is: Purposeful. Explicit. Systematic.)* Students then read a different section of the novel and apply the strategy in order to make their own comparisons. As students work independently, the teacher monitors their reading fluency, understanding of vocabulary, and application of the strategy. *(Provides literacy instruction that is: Needs-based. Intensive. Of sufficient duration to accelerate learning. Students apply literacy skills: to new/unfamiliar material.)*

Middle school: Students in an eighth grade classroom are working on developing the necessary vocabulary to access a grade-appropriate complex text. Starting with a short focus lesson, the teacher explains to students that they will be using S.A.G.E, a literacy strategy that prompts students to search the passage for four types of clues to help determine the meaning of unknown words and aide in comprehension. *(Integrates literacy skills into lessons, including: Vocabulary. Comprehension. Engages students in instruction that is: Purposeful. Explicit. Systematic.)*

The teacher explains that students can use the strategy any time they come across a word that is unknown to them and is interfering with comprehension or fluency—in any text and in any context. *(Integrates literacy skills into lessons, including: Fluency.)* After these explanations, the teacher models how to perform the strategy in an authentic context by handing out a pre-selected, grade-appropriate complex text and asking students to read it independently, taking note of words that are unfamiliar to them and are interfering with comprehension or fluency. The teacher then selects a section of the text to read out loud and selects an unfamiliar word within that section that has interrupted comprehension or the reader's fluency. She models application of the S.A.G.E. strategy using a think-aloud in which she asks the following questions

> **S**ynonym—*What word or phrase in the passage might mean the same?*
> **A**ntonym—*What word or phrase in the passage might mean the opposite?*
> **G**ist—*Based on the passage, what is the tone or mood of the word or phrase? What might be its general meaning?*
> **E**xplanation—*Does the author anywhere in the passage offer an explanation of the word or phrase? Based on all of my thinking, I'm going to infer that the word I selected means:_____.*

After the model, the teacher guides students through the strategy using the words they noted from their initial, independent reading. The teacher provides collaborative opportunities for students to use the strategy, reading passages aloud and checking for fluency and comprehension along the way. *(Integrates literacy skills into lessons, including: Speaking. Listening. Students apply literacy skills while communicating during the school day.)* Finally, students are given opportunities to use the strategy independently in a variety of contexts. *(Teaches and provides opportunities for students to apply literacy skills. Students apply literacy skills: To new/unfamiliar material.)* The recursive steps of this teaching process continue until all students can demonstrate their ability to utilize the strategy for determining the meaning of unfamiliar words in a manner than enhances their reading comprehension and fluency. *(Provides instruction that is: Needs-based. Intensive. Of sufficient duration to accelerate learning.)*

High school: A ninth grade class is reading *Romeo and Juliet*. The teacher engages students by using the gradual release of instruction framework. *(Engages students in instruction that is: Purposeful. Explicit. Systematic.)* The teacher begins with a succinct focus lesson and explains to students that they will read a passage from the text in chunks. After each chunk of text, students will summarize what they have read in order to fully comprehend each section. *(Integrates literacy skills into lessons, including: Comprehension. Writing.)* He explains that students will be using summary frames to help organize their thoughts after each section of text and that there are different summary frames for different text structures. Depending on the structure of the section of text, students will choose to complete one or more of the following:

- Cause/Effect: _____ happens because _____ OR _____ causes_____ because_____
- Description: _____ is a kind of _____ that _____
- Problem/Solution : Somebody wanted _____ but _____ so _____
- Sequence: _____ begins with _____ continues with _____ and ends with _____
- Comparison/Contrast: x and y are similar in that they are both ____ but x ____while y__

The teacher then reads a section of text aloud, modeling how to adjust pace and expression when reading a play. ***(Integrates literacy skills into lessons, including: Fluency.)*** Then, using a think-aloud, she models for students how to first determine the text structure of the chunk of text that was read and how to select the correct sentence frame. Finally, the teacher models how to complete one of the sentence frames and explains how the summary frames support comprehension of the section of text.

The teacher gives students another pre-selected section of the text. Students are asked to work in pairs, taking turns reading the text aloud while adjusting pace and expression accordingly. ***(Integrates literacy skills into lessons, including: Fluency. Speaking and Listening.)*** Students collaborate to complete the appropriate sentence frame for each chunk of text read.

Once students have had sufficient time to work in collaborative pairs, they are given a new, pre-selected portion of text to independently read and create sentence summaries. While students work independently, the teacher conferences with small groups and individuals to provide formative feedback and reinforce instruction, as needed. ***(The teacher provides instruction that is; Needs-based. Intensive. Students apply literacy skills: To new/unfamiliar material.)***

Coaching/Self-Reflection Questions

- How will I emphasize literacy connections to other subject areas?
- How will I provide opportunities for students to apply literacy skills?
- How will I integrate literacy skills into lessons?
- Which literacy skill(s) will need to be integrated into the lesson for students to master the learning objective?
- How will I engage students in instruction that is purposeful, explicit, and systematic?
- How will I provide instruction that is needs-based?
- How will I identify the needs that need to be addressed in my instruction?
- How will I provide instruction that is intensive and of sufficient duration to accelerate learning?

Element C

Teachers demonstrate knowledge of mathematics and understand how to promote student development in numbers and operations, algebra, geometry and measurement, and data analysis and probability.

ALL TEACHERS

This section describes professional practices that should be demonstrated by ALL TEACHERS, regardless of grade level or subject taught.

The great book of nature can be read only by those who know the language in which it was written ... and that language is mathematics.

—Galileo

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in demonstrating knowledge of mathematics and how to promote student development of mathematical concepts and skills, they must encourage students to make explicit math connections to the content being taught. These connections can be emphasized by stressing the need to learn math skills and by using instructional strategies that require students to apply these skills. Students are supported in this work when the teacher emphasizes interdisciplinary connections and models modeling mathematical thinking.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Encourages students to make explicit math connections across content.**

The teacher who encourages students to make explicit math connections across content:

- Identifies the specific math demands of their content area.
- Provides learning experiences and opportunities that support the application of students' general mathematical knowledge and skills.
- Uses the language of math in their teaching as appropriate.

Examples of math connections across content areas:

- Science
  - Measurement
  - Data analysis
  - Graphs
- Social studies
  - Measurement (timelines and map scales)
  - Reading numbers such as dates, populations, and percentages
  - Statistics and graphs
- Art
  - Scale
  - Symmetry
  - Geometry
  - Ratios
- Physical education
  - Measurement
  - Computation skills
  - Ratios
  - Percentages

- Music
    - Fractions
    - Ratios
    - Counting
    - Measurement

Refer to Partially Proficient Professional Practice, Uses instructional strategies that require students to apply and transfer mathematical knowledge to different content areas.

Reference the following internal resource for additional information:

- Strategies for Employing Numeracy across Content Areas
  Document lists strategies for employing numeracy in all content areas.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Emphasizes to students why they need to learn math content and skills.**

Many students fail to make the connections between learning math and their everyday lives. As a result, they may develop "math anxiety" because they do not think they are "good" at math or fail to see the usefulness of knowing math content and skills. Therefore, it is critical for teachers at all grade levels and in all content areas to recognize opportunities to emphasize the importance of learning math.

Mathematics enhances students' problem solving skills by providing the tools they need to think logically: define the problem, think of ways to solve it, implement a solution, and evaluate the results. Without math skills, students may find it hard to read maps, calculate taxes and percentages when shopping, create a budget, learn musical notes, or keep score in sporting events. The teacher may also identify professions that rely heavily on math skills: architects, contractors, landscape architects, engineers, and carpet and paint sales personnel. By communicating these uses and connecting them to the content being taught, the teacher can emphasize why students need to learn math content and skills.

- **Uses instructional strategies that require students to apply and transfer mathematical knowledge to different content areas.**

An effective way to emphasize the importance of learning math content and skills is by using instructional strategies that require students to apply these skills in different content areas.

Examples of strategies for transferring math knowledge to different content areas:

- Science
    - Creating graphs to present data collected from experiments or observations
    - Measuring weight, distance, size, and/or temperature of objects
- Social studies
    - Reading maps by using scales to calculate distance and time between locations
    - Using graphs or timelines to gain knowledge of historical and current events
- Art
    - Incorporating geometric shapes, tessellations, and/or symmetry into art projects
    - Using formulas to mix colors
- Physical education
    - Counting by ones, twos, etc., as students do warm-up exercises
    - Measuring distances on a basketball court, baseball diamond, or obstacle course
    - Using formulas to calculate winning percentages, batting averages, or distances and speeds of a runner

- Music
    - Identifying patterns in a musical composition or song lyrics
    - Using knowledge of fractions to read music or identify beats in a song

Reference the following external resources for additional information:

- Website: AIMS Education Foundation
  http://www.aimsedu.org/cms/free/free-sample-activities/1.html
  Website provides sample lessons for integrating math strategies into the teaching of science.
- Website: Popular Math & Social Studies Resources sponsored by Pearson Education, Inc.
  https://www.teachervision.com/math/social-studies/53521.html
  Website provides sample lesson plans that incorporate math strategies into the teaching of social studies.
- Website: Teaching Math With Art Helps Children Remember Key Concepts
  http://www.teacher-support-force.com/teaching-math-with-art.html
  Website provides strategies for integrating math in art.
- Website: PE Central
  http://www.pecentral.org/lessonideas/searchresults.asp?category=55
  Website provides lesson ideas for integration of other content areas, including math, into physical education classes.
- Website: Math Songs, Teaching Math Facts & Concepts maintained by Songs for Teaching
  http://www.songsforteaching.com/mathsongs.htm
  Website provides a list of songs that can be used to integrate math concepts and skills.
- Website: Mathematics in Music sponsored by Pearson Education, Inc.
  https://www.teachervision.com/math/resource/10340.html
  Website provides sample lesson plans that incorporate math strategies into the teaching of music.
- Article: "You're Not In Math Class Anymore: Integrating Math Across the Curriculum" by Linda Starr Education World
  http://www.educationworld.com/a_curr/curr146.shtml
  Article provides ways math can be connected to students' everyday lives and to other disciplines.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Emphasizes interdisciplinary connections to math.**

The Proficient teacher builds on the professional practices of encouraging students to make math connections across content and the use of instructional strategies that require students to transfer mathematical knowledge by emphasizing these connections in his demonstrations and models. When students have opportunities to witness the content "expert," or teacher, apply math to other content areas, the importance of these connections becomes stronger and more clear. Students are also more likely to independently make these connections which can support them in understanding how mathematical information is relevant to their learning.

- **Models mathematical thinking.**

A teacher model is an important component of instruction. During a model, the teacher overtly applies the mathematical thinking being applied to the content so that students can observe how a person thinks and what a person does while applying the skill. By witnessing the teacher apply the mathematical thinking, students not only learn how it is connected, but why it is important for mastery of the content.

The characteristics of mathematical thinking are described in the Common Core State Standards for Mathematical Practices.

Reference the following external resources for additional information:

- Website: Standards for Mathematical Practice from The Common Core State Standards for Mathematics
  http://www.cde.state.co.us/sites/default/files/documents/comath/documents/math_practices.pdf
  Website explains the Mathematical Practices that have been included in each Grade Level Expectation of the Colorado Academic Standards.
- Website: Prepared Graduate Competencies in Mathematics
  http://www.cde.state.co.us/sites/default/files/documents/comath/documents/math_pgcs.pdf
  Website identifies the mathematical expectations for all Colorado students.
- Website: 21st Century Skills and Readiness Competencies in Mathematics
  http://www.cde.state.co.us/sites/default/files/documents/comath/documents/21st_century_skills_math.pdf
  Website describes the essential mathematical competencies and skills students must apply in the 21st Century.
- Website: Content Connections Samples (Kindergarten through 5th Grade)
  http://www.cde.state.co.us/ContentAreas/ContentConnections/index.asp
  Website provides examples of cross-content (multi-disciplinary) connections within the Colorado Academic Standards at grades kindergarten through 5.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element C ALL TEACHERS will be students who are able to share ideas and solutions to challenging problems through the use of mathematical language. Students will also be able to interpret mathematical information in ways relevant to their learning.

PROFESSIONAL PRACTICES: STUDENTS:

- **Share ideas and solutions to challenging problems.**
- **Use the language of math to talk about what they are doing.**
- **Interpret mathematical information in ways that make it relevant to their learning.**

Classroom Examples

Elementary science: Students are learning about plants and the factors that impact their growth. They plant seeds and modify the environments by placing some plants in direct sunlight, others under a lamp, and others under a dark cover. Some plants they water as needed, and others they water twice daily. The teacher has explained to students that as scientists, they need to collect data daily and draw what they observe. She reviews how to accurately measure objects so students can correctly track the growth of each plant. The teacher concludes the unit by modeling how to graph data and analyze it for the purpose of drawing scientific conclusions. ***(Encourages students to make explicit math connections across content. Uses instructional strategies that require students to apply and transfer mathematical knowledge to different content areas.)*** She shows students examples of scientific journals to emphasize the need to be detailed and specific in the language they utilize. The unit concludes with students working in groups of three to create graphs and a book of their drawings that demonstrate the impact of each environment on the plants. ***(Emphasizes interdisciplinary connections to math.)***

They collaborate to write what they learned about plant growth based on their findings.

Refer to Standard III, Element E for how this classroom example also aligns to this element.

Middle school writing: Students are writing an argument that includes comparisons to support their points of view. The teacher presents examples of argumentative writing that use graphs to show comparisons between different products, locations, businesses, etc., to help students understand the importance of using visuals to support their points of view. ***(Encourages students to make explicit math connections across content.)*** He models his writing and the incorporation of bar and line graphs to support his argument about the importance of reducing sugar in one's diet. As he models his writing, he uses mathematical vocabulary associated with the creation of graphs and explains how he decided which type of graph to use for each point of view. He then connects his

writing to each graph to explain how the visuals support his argument. *(Uses instructional strategies that require students to apply and transfer mathematical knowledge to different content areas. Emphasizes interdisciplinary connections to math. Models mathematical thinking.)*

High school art: Students are applying the concepts of the Golden Ratio and Fibonacci numbers into an art project. The teacher and students explore how these concepts are related to sea shell shapes, branching plants, flower petals and seeds, and leaves and petal arrangements. *(Encourages students to make explicit math connections across content.)* The teacher models the importance of understanding these math concepts to the creation of art by providing examples of Michelangelo's and Da Vinci's work. *(Emphasizes to students why they need to learn math content and skills. Uses instructional strategies that require students to apply and transfer mathematical knowledge to different content areas.)* The teacher models how she used knowledge of the Golden Ratio to create a painting of flowers by utilizing the vocabulary associated with the math content and sharing the thinking she utilized to ensure her art represented the Golden Ratio. *(Emphasizes interdisciplinary connections to math. Models mathematical thinking.)*

Coaching/Self-Reflection Questions

- How will I encourage students to make explicit math connections across content?
- How will I emphasize the need for students to learn math content and skills?
- What instructional strategies will I use to support students in applying mathematical knowledge to the content I am teaching?
- How will I require students to apply mathematical knowledge to the content I am teaching?
- How will I emphasize interdisciplinary connections to math?
- How will I model mathematical thinking for my students?

Teachers demonstrate knowledge of mathematics and understand how to promote student development in numbers and operations, algebra, geometry and measurement, and data analysis and probability.

MATH TEACHERS

This section describes professional practices that should be demonstrated by Teachers responsible for teaching math.

The great book of nature can be read only by those who know the language in which it was written ... and that language is mathematics.

—Galileo

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers of math to be Proficient in demonstrating knowledge of mathematics and how to promote student development of mathematical concepts and skills, they must provide instruction that provides for a balance of conceptual understanding and procedural skills that is sequenced and appropriate for the age and grade of students. An environment is established in which students are actively engaged in doing math that challenges their thinking, stimulates their curiosity and encourages them to investigate further.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Focuses math instruction beyond:

- **Recall of facts.**
- **Development of computational skills.**
- **Math as a series of rote procedures.**

The Colorado Academic Standards call for rigorous math instruction that moves beyond knowledge of math as a set of facts or procedures. For Colorado students to demonstrate mastery of the standards, they must develop:

- Fluency, application, and transfer of math skills.
- A conceptual understanding that includes the what, how, and why of math content and skills.

Getting the correct answers is essential in math, but that is only part of the learning students need in order to master math content. For students to think like mathematicians and be able to apply math to real-world problems, they must develop a conceptual understanding of math that goes beyond rote learning.

> [The] speedy recollection of facts should not be confused with real mathematical skill. Good mathematical strategies—not quick memorization—are what really matter in understanding mathematics. (Mokros, Russell, & Economopoulos, 1995, p. 72)
>
> If fluency is the goal, classroom instruction must emphasize the development and application of strategies; rote memorization of isolated facts will not suffice to develop proficiency with basic facts (Kilpatrick, Swafford, & Findell, 2001).

Reference the following external resources for additional information:

- Article: "Beyond One Right Answer" by Marian Small
  http://www.ascd.org/publications/educational-leadership/sept10/vol68/num01/Beyond-One-Right-Answer.aspx
  Article describes how the teacher can differentiate questions to move students beyond just a recall of facts and finding the right answer.
- Article: "Fluency with Basic Addition" by Gina King
  http://www.slideshare.net/jwalts/math-fluency
  Article, presented as a slide show, explains the differences between basic recall of facts and fluency.
- Website: Tools for Sense-making in Mathematics sponsored by SERP
  http://math.serpmedia.org/sense-making/
  Website provides ways to move math instruction from a focus on answer-getting to sense-making.

Models:
A teacher model is an important component of instruction. During a model, the teacher overtly applies the math concept or skill being taught to perform a relevant classroom or authentic task, talking aloud during the application so that students can observe how a person thinks and what a person does while applying the skill. By witnessing the teacher apply the concept or skill, students learn not only how it is done but how decisions are made for successful completion of the task.

- **Appropriate mathematical communication.**

  Communication is an essential part of mathematics and mathematics education. It is a way of sharing ideas and clarifying understanding. Through communication, ideas become objects of reflection, refinement, discussion, and amendment. The communication process also helps build meaning and permanence for ideas and makes them public. ("Principals and Standards for School Mathematics", 2000)

The National Council for Teachers of Mathematics Instruction emphasizes the importance of mathematical communication by posting the following on their website.

Programs from prekindergarten through grade 12 should enable all students to:

- Organize and consolidate their mathematical thinking through communication.
- Communicate their mathematical thinking coherently and clearly to peers, teachers, and others.
- Analyze and evaluate the mathematical thinking and strategies of others.
- Use the language of mathematics to express mathematical ideas precisely.

- **A variety of mathematical practices.**

The Colorado Academic Standards and Common Core State Standards for Mathematics include the following mathematical practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

For students to master these practices and understand their connections to math content, the teacher must model their application to a variety of problems and in variety of situations.

Reference the following external resources for additional information:

- The Standards for Mathematical Practice, annotated for the K–5 classroom
  http://commoncoretools.me/wp-content/uploads/2014/02/Elaborations.pdf
  Document provides explanations of the Standards for Mathematical Practice that are appropriate for grades K-5.
- Website:
  http://omsd.omsd.k12.ca.us/departments/lss/academics/commoncore/Documents/SMP-Posters/Posters-K-1.pdf
  Website provides visuals appropriate for teaching the Standards for Mathematical Practice to early childhood and elementary students.
- Website: Standards for Mathematical Practice maintained by Biting into the Core
  http://www.bitingintothecore.com/standards-for-mathematical-practice.html
  Website provides resources for modeling and engaging students in the Standards for Mathematical Practices at all grade levels. Videos are included.

Reference the following internal resource for additional information:

- Standards for Mathematical Practice
  Document provides explanations for each mathematical practice as part of the Colorado Academic Standards.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Presents concepts:

- **In a sequence.**

When concepts are presented in a sequence, they are ordered in a logical way that supports students in scaffolding their learning so they can build on prior knowledge and experiences.

Sequencing within a lesson can relate to the appropriate teaching of **sub-objectives** as well as the release of responsibility to students. Sub-objectives should be taught, or reviewed, in an appropriate sequence for the grade level and ability of the students. The selection of appropriate sub-objectives depends on the needs of the students, the complexity of the objective, and the content.

As support in presenting concepts in a sequence, the teacher should reference the district's curriculum, and ask the following questions:

- What do my students already know about this concept or skill?
- What are the prerequisite skills students need to master in order to meet the learning objective?
- How should the skills or steps for this concept be sequenced?
- How will I provide for a sequence that includes procedural learning and conceptual learning?
- How will I support students in scaffolding their learning?

- **In a manner appropriate to students' age and grade.**

As support in presenting concepts in a manner appropriate to students' age and grade, the teacher should reference the Colorado Academic Standards and the district's curriculum. The teacher must also consider the cognitive level of the students, their attention span, communication skills, and previous learning from prior grades and units of study.

Reference the following external resources for additional information:

- Document: The Standards for Mathematical Practice, annotated for the K–5 classroom
  http://commoncoretools.me/wp-content/uploads/2014/02/Elaborations.pdf
  Document provides explanations of the Standards for Mathematical Practice that are appropriate for grades K-5.
- Website:
  http://omsd.omsd.k12.ca.us/departments/lss/academics/commoncore/Documents/SMP-Posters/Posters-K-1.pdf
  Website provides visuals appropriate for teaching the Standards for Mathematical Practice to early childhood and elementary students.
- Website: Illustrative Mathematics
  http://www.illustrativemathematics.org/
  Website provides sample lesson plans for all grades aligned to Common Core Standards for Mathematics.
- Website: Instructional Resources – Mathematics maintained by the Colorado Department of Education
  http://www.cde.state.co.us/comath/resources#Differentiation
  Website provides links to resources for differentiating math instruction based on students' academic needs and language.

- **Helps students understand mathematics as a discipline.**

  Mathematical concepts do not exist in isolation. Mathematics is a set of systems. Arithmetic of whole numbers is a self-contained, logical system until division is introduced. Division produces rational numbers that are not whole numbers, a new kind of number. The system has to be upgraded to encompass all rational numbers. Learning a concept in mathematics is almost always an upgrade of prior mathematics knowledge. Comprehending explanations in mathematics requires a strategic perspective of repairing and upgrading prior knowledge. (Daro, Mosher, & Corcoran, 2011)

The following explanation regarding the understanding of mathematics as a discipline is taken from the Colorado Department of Education site: http://www.cde.state.co.us/CoMath

> …these important competencies are interwoven throughout the standards: *inquiry questions; relevance and application; and the nature of each discipline.* These competencies should not be thought of as stand-alone concepts, but should be integrated throughout the curriculum in all grade levels. Just as it is impossible to teach thinking skills to students without the content to think about, it is equally impossible for students to understand the content of a discipline without grappling with complex questions and the investigation of topics.
>
> - Inquiry Questions: Inquiry is a multifaceted process requiring students to think and pursue understanding. Inquiry demands that students (a) engage in an active observation and questioning process; (b) investigate to gather evidence; (c) formulate explanations based on evidence; (d) communicate and justify explanations, and; (e) reflect and refine ideas. Inquiry is more than hands-on activities; it requires students to cognitively wrestle with core concepts as they make sense of new ideas.
> - Relevance and Application: The hallmark of learning a discipline is the ability to apply the knowledge, skills, and concepts in real-world, relevant contexts. Components of this include solving problems, developing, adapting, and refining solutions for the betterment of society. The application of a discipline, including how technology assists or accelerates the work, enables students to more fully appreciate how the mastery of the grade level expectation matters after formal schooling is complete.
> - Nature of Discipline: The unique advantage of a discipline is the perspective it gives the mind to see the world and situations differently. The characteristics and viewpoint one keeps as a result of mastering the grade level expectation is the nature of the discipline retained in the mind's eye.

The teacher should refer to the sections for each grade-level standard for concepts and skills students master on the Colorado Academic Standards for Mathematics for guidance related to the teaching of mathematics as a discipline.

Reference the following internal resource for additional information:

- Discipline of Mathematics as a 21st Century Skill
  Document provides explanations of mathematics as a discipline in relationship to Colorado's 21st Century Skills.

- **Provide a balance of teaching for conceptual understanding and teaching for procedural fluency.**

One of the instructional shifts required by the Colorado Academic Standards and the Common Core State Standards for Mathematics is an equal intensity on conceptual understanding, procedural skills, and fluency and application.

> Once we have a focused set of standards, teachers and students have the time and space to develop solid conceptual understanding. There is less pressure to quickly teach students how to get the answer, which often means relying on tricks or mnemonics instead of understanding the reason an answer is correct or why a particular trick works. (Alberti, 2013, para. 24)
>
> For example, it is not sufficient for students to know they can find equivalent fractions by multiplying the numerator and denominator by the same number. Students also need to know why this procedure works and what the different equivalent forms mean. Attention to conceptual understanding helps students build on prior knowledge and create new knowledge to carry into future grades. It is difficult to build further math proficiency on a set of mnemonics or meaningless procedures. (Alberti, 2013, para. 25)

Reference the following internal resource for additional information:

- Levels of Cognitive Demand

  Document describes four levels of cognitive demand ranging from low level (memorization) to the higher level of doing math.

Reference the following external resource for additional information:

- Video: Don't Leave Out the Math with Phil Daro
  http://www.youtube.com/watch?v=uyeebGEDtio

  Video is Phil Daro, a lead writer of the Common Core State Standards for Math, discussing the difference between teaching for conceptual understanding and "answer getting."

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Establishes an effective mathematics environment by:

- **Challenging students to think deeply about the problems.**

Challenging all students requires setting high expectations for all students. Teachers must communicate that excellence is expected from all students, not just students who are viewed as high achievers or "gifted." Teachers who communicate these expectations consistently:

- Plan instruction that addresses the academic needs and learning preferences of all students. ***(Refer to Standard III, Element A.)***
- Create a classroom environment in which students feel safe taking risks. ***(Refer to Standard III, Element B.)***
- Communicate that content is important and makes it meaningful for students – Addresses the "why" for learning.
- Teach students that mistakes are part of the learning process and that effort is a key to success.
- Provide feedback on students' progress and next steps. ***(Refer to Standard III, Element H.)***

The Standards for Mathematical Practice provide guidelines for how the teacher can challenge students to think deeply about problems.

Reference the following external resources for additional information:

- Article: "Launching Complex Tasks" by Kara Jackson
  http://standardstoolkit.dpsk12.org/files/Article_Launching_ComplexTasks.pdf

  Article describes four elements of challenging mathematical problems that support the learning of all students.
- Website: Problem Solving maintained by Principles and Standard for School Mathematics
  http://www.fayar.net/east/teacher.web/math/Standards/document/chapter3/prob.htm

  Website explains the importance of having students engage in problem solving activities and describes strategies for doing this in the classroom.

- **Requiring students to explain their solutions.**

  When students are challenged to think and reason about mathematics and to communicate the results of their thinking to others orally or in writing, they learn to be clear and convincing. Listening to others' explanations gives students opportunities to develop their own understandings. Conversations in which mathematical ideas are explored from multiple perspectives help the participants sharpen their thinking and make connections. Students who are involved in discussions in which they justify solutions—especially in the face of disagreement—will gain better mathematical understanding as they work to convince their peers about differing points of view (Hatano and Inagaki 1991). Such activity also helps students develop a language for expressing mathematical ideas and an appreciation of the need for precision in that language. Students who have opportunities, encouragement, and support for speaking, writing, reading, and listening in mathematics classes reap dual benefits: they communicate to learn

mathematics, and they learn to communicate mathematically. ("Principals and Standards for School Mathematics", 2000)

Standard 3 for Mathematical Practice is to construct viable arguments and critique the reasoning of others. For students to master this practice, they must have opportunities to justify and explain, with accurate mathematical vocabulary, how they arrived at their solution and develop the skill of critiquing others' reasoning.

Reference the following external resource for additional information:

- Website: Reasoning and Proof maintained by Principles and Standard for School Mathematics
  http://www.fayar.net/east/teacher.web/math/Standards/document/chapter3/reas.htm
  Website explains the importance of having students explain their solutions by providing reasons and proof.

- **Posing questions that stimulate students' curiosity and encourage them to investigate further.**

  Our minds (teachers) must stimulate theirs (students) with questions and yet further question; questions that probe information and experience; questions that call for reasons and evidence; questions that lead students to examine interpretations and conclusions, pursuing their basis in fact and experience; questions that help students to discover their assumptions, questions that stimulate students to follow out the implications of their thought, to test their ideas, to take their ideas apart, to challenge their ideas, to take their ideas seriously. It is in the totality of this intellectually rigorous atmosphere that natural curiosity thrives. (Paul, Willsen, & Binker, 1995)

Strategies for stimulating students' curiosity:

- Create a classroom culture open to dialogue: Students feel free to respond to the teacher's questions, challenge peers' responses, and ask their own questions.
- Use both preplanned and emerging questions: The teacher preplans questions that will be asked based on the learning objective and students. However, questions are also asked that result from students' response and questions.
- Address questions to the group or to individuals randomly: A variety of response methods is utilized to engage all students in responding to questions and to hold students accountable for formulating responses and developing their own questions.
- Use sufficient wait time: Provide students sufficient time to formulate responses. Communicate the expectation that everyone needs a few seconds of "think time" to process the question and their response.

Reference the following external resource for additional information:

- Article: "Four Strategies to Spark Curiosity via Student Questioning" by Kevin D. Washburn
  http://www.edutopia.org/blog/build-curiosity-questioning-strategies-kevin-washburn
  Article describes strategies for stimulating student curiosity through questioning.

Refer to Standard II, Element C and Standard III, Element E.

- **Actively engaging students in doing math.**

When the teacher is Proficient in implementing the professional practices listed under the Proficient level, the result will be students that are actively engaged in doing math. By challenging students to think deeply about problems, requiring them to explain their solutions, posing questions that stimulate curiosity and investigation, the teacher is establishing an environment in which students engage in doing math.

- **Using real-world examples for problems whenever possible.**

> This is the "why we learn math" piece. We learn it so we can use it in situations that require mathematical knowledge. There are requirements for application all the way through the grades in the standards. But correctly applying mathematical knowledge depends on solid conceptual knowledge and procedural fluency. If we attempt to get students to start solving real-world problems when they lack that knowledge and fluency, the problem will just become harder. (Alberti, 2013, para. 28)
>
> At the same time, we don't want to save all application for the end of the learning progression. Application can be motivational and interesting, and students at all levels need to connect the mathematics they are learning to the world around them. (Alberti, 2013, para. 29)

When students have opportunities to engage in real-world problems, their motivation increases because learning becomes more meaningful. The need to learn math content and skills becomes purposeful as they are able to relate mathematical thinking to their interests and life experiences.

Reference the following external resources for additional information:

- Article: "Bringing Mathematics to Life" by Scott Willis and Kathy Checkley
  http://www.ascd.org/publications/curriculum-update/summer1996/Bringing-Mathematics-to-Life.aspx
  Article explains the importance of real-world applications and includes ideas for classroom instruction.
- Article: "Making Math Relevant" by Susan Kelly-Bryan
  http://teachers.greenville.k12.sc.us/sites/kstables/Shared%20Documents/AL0406MakingMathRelevant%5B1%5D.pdf
  Article describes strategies for making math relevant to students' lives.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element C, Teachers responsible for teaching math, will be students who are able to solve problems in a variety of ways. This will be demonstrated by their ability to explain their thinking to others and to their teacher. They will also be able to recognize their procedural errors and take steps to correct them.

PROFESSIONAL PRACTICES: STUDENTS:

- **Solve problems in a variety of ways.**
- **Demonstrate mathematical thinking by explaining their thinking to each other and to their teacher.**
- **Recognize when they make procedural errors and take steps to correct them.**

Classroom Examples

Elementary: First graders are learning to solve addition and subtraction word problems. The teacher connects the comprehension of word problems to literacy by modeling for students how they can apply the strategy of visualization to determine what is happening in the problem so they can determine what they need to solve. She intentionally refrains from teaching specific language associated with addition or subtraction word problems, as she knows these words or phrases will not help her students solve more complex word problems. Therefore, she has focused previous lessons on what it means to add and what it means to subtract and how these computation methods impact the number of objects in a group. ***(Presents concepts: In sequence. In a manner appropriate to students' age and grade. Provides a balance of teaching for conceptual understanding and teaching for procedural fluency.)*** During her model, the teacher reads the problem several times and draws a picture that represents her visualization of the problem. She then models the questions she asks, such as, "What am I solving for?" "Will my solution be a higher number or a lower number?" As she models, she labels the Standards of Mathematical Practice she is applying: make sense of problems and persevere in solving them, and reason abstractly and quantitatively. ***(Models: Appropriate mathematical communication. A variety of mathematical practices.)*** Perseverance has been highlighted as an important character trait, so she knows students will be familiar with this practice. After the teacher's model, students assist her in solving another word problem before they work in groups of two to solve two additional problems. ***(Presents concepts: In sequence.)*** Each word

problem is based on students' real-life experiences, such as joining two groups of friends to play a game of baseball or sharing crayons with a friend. After student partners complete their work, they join another student group to explain how they solved each problem. ***(Establishes an effective mathematics environment by: Challenging students to think deeply about the problems. Requiring students to explain their solutions. Actively engaging students in doing math. Using real-world examples for problems whenever possible.)*** The lesson concludes with students solving two word problems independently while the teacher assists students she identified during the partner work as needing additional support. ***(Presents concepts: In a manner appropriate to students' age and grade.)***

Middle school: Students have been successfully constructing graphs of linear functions and interpreting the rate of change, initial value, and other points on the graph, yet have been failing to see how these skills transpire outside of the classroom. The teacher communicates to the students that they are going to experience how their recently acquired skills are necessary to those employed as environmental engineers. The teacher then presents the following problem:

> *A new power plant is being proposed 50 miles away from a national outdoor recreational center. As an environmental engineer, you have been hired to conduct research on the effects the plant will have on the environment, focusing on air pollutants, and determine whether the plant can be built. Once you have your findings you will present them back to the power plant officials.*

(Focuses math instruction beyond: Recall of facts. Development of computational skills. Math as a series of rote procedures.)

Through the use of technology, students research the job qualifications of environmental engineers and the effects of power plants on the environment. The teacher provides the students with a graphic organizer to record their findings and questions. As students share their research with their peers, the teacher assists in the discussion with prompts and questions. ***(Establishes an effective mathematics environment by: Posing questions that stimulate students' curiosity and encourage them to investigate further. Using real-world examples for problems whenever possible.)*** The teacher provides the "research" completed by the environmental engineer: amount of air pollutants per million allowed within the area of the park and the air pollutant testing within a 20-, 40-, and 80-mile radius from the plant. With this data, the students determine that they can create a table, graph, and an equation that will represent the relationship between the distance of the power plant and the amount of sulfur dioxide in the air. Using their models, the students determine whether the power plant can be built and create justification statements. Their final task is to generate a presentation for the officials at the power company. The teacher encourages the students to be professional by either developing a speech and/or a visual presentation. ***(Establishes an effective mathematics environment by: Challenging students to think deeply about the problems. Requiring students to explain their solutions. Actively engaging students in doing math.)*** Once the assignment is completed, the student engineers present their reports to their classmates who act as the power plant officials. ***(Students solve problems in a variety of ways. Demonstrate mathematic al thinking by explaining their thinking to each other and to their teacher.)***

High school: Students are working on developing their verbal and written communication skills in order to compose proofs for geometric theorems. The students have had previous experience working with perimeter and area of simple geometric shapes through routine warm-up activities to help consolidate understanding and overcome common misconceptions. ***(Presents concepts in a sequence and in a manner appropriate to students' age and grade)***. A pre-assessment has also been given to the students, and the teacher reviewed the students' results in order to provide them with questions that will help them refine their solutions as they continue with their lessons. ***(Helps students understand mathematics as a discipline.)*** The lesson the teacher has chosen requires students to engage in deep mathematical thinking by strategizing and collaborating with their peers. The teacher begins the lesson by presenting the three learning targets for the students: understand the concept of length and area, use the concept of area in proving why two rectangles are or are not equal, and construct their own examples and counterexamples to help justify or refute conjectures. The teacher also refers to two of the 8 Mathematical Practices that will be highlighted in the day's lesson: Reason abstractly and quantitatively, and

construct viable arguments and critique the reasoning of others. ***(Focuses math instruction beyond: Recall of basic facts. Development of computation skills. Math as a series of rote procedures.)***

The teacher begins by posing a conjecture about whether equal areas are formed by the diagonals of a quadrilateral. Students are asked to develop their thoughts on whether the statement is always, sometimes, or never true. ***(Establishes an effective mathematics environment by: Challenging students to think deeply about the problems and posing questions that stimulate students' curiosity and encourage them to investigate further.)*** Once students have had time to develop their thoughts and share with a partner, the teacher brings the class together to openly discuss which quadrilaterals the students have worked with, their results, and chosen methods for proving the conjecture. The teacher chooses to allow the students to explain their ideas to each other using prompts, such as, "Josh thinks this statement is sometimes true. Susan why do you think John thinks this?" ***(Establishes an effective mathematics environment by: Requiring students to explain their solutions. Posing questions that stimulate students' curiosity and encourage them to investigate further. Actively engaging students in doing math.)***

For the second activity, the teacher provides each group of students with two sample pieces of work that focus on justifying/disproving the conjecture for two types of quadrilaterals: kites and parallelograms. The teacher explains that the purpose of this activity is to consider what makes a good explanation and address any misconceptions in length and area. ***(Models: A variety of mathematical practices. Provides a balance of teaching for conceptual understanding and procedural fluency.)*** Students will work in groups to determine whether the sample student work made any incorrect justifications and improve upon the solutions. The teacher monitors the students and their approaches and records any questions on the board appropriate for a whole-class discussion. ***(Students demonstrate mathematical thinking by explaining their thinking to each other and to their teacher.)***

The students are offered time to work individually or in pairs on an additional conjecture with a real-world problem.

> *A family decides to put a pool in their backyard but also hopes it will not take up a large amount of space. They have a choice between a circular or quadrilateral pool. If both pools have the same perimeter, which pool will take up the larger area?*
>
> ***(Establishes an effective mathematics environment by: Using real-world examples for problems whenever possible.)***

In closing, students are given their pre-assessment and asked to review their original responses and think about what they have learned in this lesson and to improve their original responses. ***(Students recognize when they make procedural errors and take steps to correct them).***

Coaching/Self-Reflection Questions

- How will I ensure that math instruction focuses beyond recall of facts and rote procedures or steps?
- How will I model appropriate mathematical communication?
- What math vocabulary will be necessary for students to learn in order to communicate their thinking?
- Which mathematical practices will be incorporated into the lesson?
- How will I model application of the mathematical practices?
- How will I present concepts in a sequence that is appropriate to the students' age and grade?
- How will I help students understand mathematics as a discipline?
- How will I ensure my teaching balances conceptual understanding and procedural fluency?
- How will students be challenged to think deeply about the problems?
- How will students be required to explain their solutions?
- What questions will I ask to stimulate students' curiosity?
- How will I incorporate real-world examples connected to the learning objective?

Element D

Teachers demonstrate knowledge of the content, central concepts, tools of inquiry, appropriate evidence-based instructional practices and specialized character of the disciplines being taught.

A teacher must believe in the value and interest of his subject as a doctor believes in health.
—Gilbert Higher

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in demonstrating knowledge of the content they teach, they must break down concepts into manageable parts and provide explanations that are accurate, clear, concise, and comprehensible for students. This is done by using instructional materials that are accurate and appropriate for the learning objective along with a variety of strategies, explanations, and representations of the content to address student needs and to allow students to explore new ideas and theories.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Breaks down concepts into instructional parts and teaches each part using appropriate, effective strategies and/or tools.**

  … the most effective teachers in these studies taught new material in "small steps." That is, they only presented small parts of new material at a single time. The importance of teaching in small steps fits well with the findings from cognitive psychology on the limitations of our working memory. Our working memory, the place where we process information, is small. It can only handle a few bits of information at once — too much information swamps our working memory. (Marzano, 2007)

  Because the brain has a threshold for how much information it can process at one time, learning is more efficient if information is received in small chunks. Planning strategic stopping points and providing specific learning strategies in a lesson allows students the time and tools to effectively learn the content. As students build their knowledge base, larger chunks of content can be presented. (Marzano, 2007)

  Importantly, in the most effective lessons is the conscientious effort, throughout the lesson, to ensure that all students are learning each segment of the lesson before moving on to the next. (Schmoker, 2011)

Teaching content that is broken down into manageable parts allows students to build success with each part in order to develop mastery of the concept or skill. By teaching each part and assessing along the way, the teacher is better equipped to identify misconceptions and adjust instruction during the learning process.

- **Uses instructional materials that are accurate and appropriate for the lesson being taught.**

Aligning instructional materials with individual student need, interest surveys, and teacher observations can dramatically increase the levels of student engagement. The purposeful incorporation of materials such as visuals, games, technology, music, humor, role play, etc., can lead to an increased level of student learning.

The teacher's decisions about the use of materials can be overwhelming due to the variety of visual, digital, and audio resources available. The most appropriate materials are those that support student success with the learning objective, align with students' age and cognitive ability, support students' learning needs, and promote student independence and transference of learning.

- **Employs a variety of instructional strategies to address student needs.**

The teacher needs to know where each student begins and how he is progressing towards meeting the learning objectives of a lesson in order to employ **instructional strategies** that address student needs. Depending on a

student's progress towards the objective, her understanding of procedural skills and conceptual understandings, her level of motivation, and her learning preferences, the teacher will need to provide different ways in which the student can access the content and skills being taught.

Instructional strategies employed in a lesson should include the following:

- Alignment to the learning objective.
- Support of the academic needs of students.
- Variety of strategies that addresses the students' learning preferences, including visual, kinesthetic, and auditory preferences.
- Opportunities for student to student interaction.
- Connections to student interests, experiences, and prior learning.

Reference the following internal resources for use in identifying student needs:

- Determining Your Learning Preference
  Document can be used by students to determine their learning preference.
- Characteristics of Learning Styles Preferences
  Document provides characteristics of the learning preferences: auditory, visual, and kinesthetic, with suggestions for instructional strategies.
- Interest Inventory for Students
  Survey references twenty different areas of a student's life that can be used to support the student and teacher in identifying their interests.
- Multiple Intelligence Survey for Secondary Students
  Survey supports secondary students in identifying their preferred type of intelligence, based on the work of Howard Gardner.
- Multiple Intelligence Survey for Elementary Students
  Survey supports elementary students in identifying their preferred type of intelligence, based on the work of Howard Gardner.

Partially Proficient rating level

Professional Practices: The Teacher:

Provides explanations of content that are:

- **Accurate.**
- **Clear.**
- **Concise.**
- **Comprehensive.**

Explanations of content can be provided in a variety of ways. The teacher may model examples of the skills being taught through direct instruction or modeling, provide visuals or labels that illustrate new content, and/or provide analogies for new ideas and concepts. Whichever method is utilized, it is critical that the teacher's explanations (oral and written) are accurate, clear, concise, and comprehensive to support all students in being successful with the rigor required by the Colorado Academic Standards.
Explanations that are accurate are void of error or misinformation. They provide students with the knowledge and skills they need to correctly apply the content being taught.

Explanations that are clear and concise focus on the most important concepts or ideas students need to learn in order to master the content being taught. The teacher avoids introducing random facts or ideas that are not connected to the learning objective and can lead to confusion in students.

For explanations to be clear and concise that must also include language that is understandable to students.

> Imagine the incredible amount of stimuli bombarding students as they try to learn. The overwhelming experience can be reduced if communication is operative and allows students to focus on the lesson at

hand. This is particularly important for students learning a new language and students with learning disabilities, but benefits all students. (Hill & Flynn, 2006)

Explanations that are comprehensive include all information or steps students need to master the learning objective. The teacher who provides explanations that are comprehensive is clear about the outcomes for student learning and knows what students must say or do to demonstrate mastery. The teacher then uses these outcomes to plan explanations that will support student mastery.

Refer to Standard III, Element G.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Engages students in:

- **A variety of explanations and multiple representations of concepts and ideas.**

Using a variety of explanations and multiple representations recognizes that students learn in different ways and need opportunities to make connections across concepts and ideas. While it is important for the teacher to present content through a variety of explanations and representations, students also need opportunities to engage with the content and demonstrate their learning in a variety of ways. If a student can represent a concept in a variety of ways, the teacher knows she truly understands it.

Multiple representations may include:

- Written explanations
- Symbols
- Visuals, such as maps, graphic organizers, and illustrations
- Real-world examples
- Manipulatives

Representations may be scaffolded from concrete to abstract based on students' prior knowledge and experiences. When selecting representations to use, the teacher needs to consider how they support students in developing the procedural skills needed for a concept or skill as well as the development of their conceptual understanding. These levels of understanding are critical for students to meet the demands of the Colorado Academic Standards. Teachers of mathematics can refer to the Common Core Standards for Mathematical Practice for more information related to the expectations related to multiple representations.

Reference http://www.insidemathematics.org/index.php/mathematical-practice-standards for Standards for Mathematical Practice and lesson plan examples.

Reference the following internal resource for additional information:

- Engaging Students in the Use of Multiple Representations

  Document provides ideas for how students may represent their learning in different content areas using multiple representations.

- **A variety of inquiry methods to explore new ideas and theories.**

  It would seem that **inquiry-based instruction** might have powerful effects where students have the cognitive capacity to think critically but have not previously been encouraged to think in this way. Overall, inquiry-based instruction was shown to produce transferable critical thinking skills as well as significant domain benefits, improved achievement, and improved attitude towards the subject. (Hattie, 2009, p. 209)

Students engage in inquiry learning experiences by developing questions and investigating in order to find solutions. Teachers facilitate learning as students engage in active problem solving, the construction of meaning, and the communication of new understandings.

The teacher can guide student learning by selecting, designing, and planning learning tasks that are open-ended, asking probing questions, observing students at work to identify misconceptions, and planning follow-up experiences. Well-constructed inquiry methods allow students' entry to the problem from different points and encourage divergent thinking. Students are able to engage in thinking like an expert (mathematician, scientist, and historian).

Reference the following external resources for additional information:

- Article: "Inquiry-Based Instruction Explores, Then Explains" by Jeff Marshall
  http://www.ascd.org/ascd-express/vol9/909-marshall.aspx
  Article describes the inquiry method as the explore-then-explain method and provides an example for a science lesson.
- Website: Concept to Classroom Workshop: Inquiry-based Learning Educational Broadcasting Company
  http://www.thirteen.org/edonline/concept2class/inquiry/index.html
  Website defines inquiry-based learning, describes its benefit, and provides ideas for implementation.
- Video: Jeffrey Wilhelm on Inquiry-based Learning
  http://www.youtube.com/watch?v=3x-pTBZw8mg
  Video describes an inquiry-based lesson on Romeo and Juliet that includes differentiation based on language and culture.
- Video: Inquiry-based Learning
  http://www.youtube.com/watch?v=sLQPXd8BiIA
  Video outlines steps for creating inquiry-based learning activities.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element D will be students who utilize a variety of inquiry tools and strategies that allow them to engage in more complex and challenging tasks and apply new learning to unique situations and different disciplines.

PROFESSIONAL PRACTICES: STUDENTS:

- **Develop a variety of explanations and multiple representations of concepts.**
- **Build on the skills and knowledge learned in the classroom to engage in more complex concepts, ideas, and theories.**

Use a variety of inquiry tools and strategies to:

- **Learn content.**
- **Understand central concepts.**
- **Answer complex questions.**
- **Problem solve.**

Routinely:

- **Choose challenging tasks and instructional materials.**
- **Apply newly learned content skills to unique situations and different disciplines.**
- **Discuss ideas and content that are intellectually challenging to them.**

Classroom Examples

Early childhood science and writing: Students are learning about how scientists make observations using the five senses and scientific tools, such as a magnifying glass. In previous lessons, the teacher has taught students about each of the five senses and provided activities for them to learn about various objects using their senses. They have learned about the special tools scientists use and had opportunities to observe objects using them. The teacher now connects this learning to a study of plants. Students are told they are going on a "field trip" around their school to collect leaves and look at different plants. ***(Breaks down concepts into instructional parts and teaches each part using appropriate effective strategies and/or tools.)*** That as scientists, they will use their senses to make observations. As the students observe various plants, the teacher asks the following questions to guide their observations and discoveries:

- In what part of the yard did we find this plant?
- Is the plant tall or short?
- How would you describe the plant (color, feel, smell)?
- What can we learn about the plants in our yard from our observations?

When students return to the classroom, the teacher provides plants like the ones from the school yard for students to continue their observations using the senses of touch, sight, and smell and magnifying glasses. ***(Uses instructional materials that are accurate and appropriate for the lesson being taught.)*** The teacher continues to question students to lead them to discover that plants can have different types of leaves, sizes, colors, textures, and smells. ***(Engages students in a variety of inquiry methods to explore new ideas and theories.)***

During the day's writing block, students are told that it is important for scientists to communicate their findings with others. As scientists, they will draw their favorite plant and write a sentence about it. The teacher models her drawing and labels how she is being careful to draw it exactly as it looks and that her sentence must match her picture. As she writes her sentence, she reminds students that good writers use a capital letter, put spaces between their words, and end their sentences with a period. ***(Provides explanations of content that are Accurate. Clear. Concise. Comprehensive.)*** The lesson concludes with students sharing their drawing and sentence with a peer. ***(Employs a variety of instructional strategies to address student needs.)***

Elementary reading: Students are comparing and contrasting the adventures and experiences of characters in stories. Prior to this lesson, the teacher and students created charts of characters' adventures and experiences as they read different texts. The teacher begins the lesson by having students preview the definitions of adventure, compare, and contrast. She models the expectations for student work and shares her thought process for how she compared and contrasted two characters' adventures. ***(Breaks down concepts into instructional parts and teaches each part using appropriate effective strategies and/or tools.)*** As part of the model, she references the previously created charts and demonstrates how to transfer the information to a Venn diagram. She charts the questions she asked herself as a support for students to reference. ***(Uses instructional materials that are accurate and appropriate for the lesson being taught. Employs a variety of instructional strategies to address student needs. Provides explanations of content that are Accurate. Clear. Concise. Comprehensive.)*** She tells students they will utilize their Venn diagrams in tomorrow's lesson to analyze how the characters' adventures impacted the ending of each story.

Middle School Music: Students are studying World War I (WWI) in their social studies class. To help students understand how music can represent the events and emotions of specific time periods, the music teacher uses an LCD projector and the Internet to play songs popular during WWI and show videos of soldiers dancing at USO parties. Students analyze the lyrics and videos for how music communicated the emotions of the soldiers and families at home and provided release from the stress of war. ***(Uses instructional materials that are accurate and appropriate for the lesson being taught. Employs a variety of instructional strategies to address student needs.)*** After completing individual analysis of WWI music, students are placed in groups of three to discuss their analysis. Working in groups of four, students select a current event, such as a war, natural disaster, economic crisis, etc., to represent through music. They discuss, as a group, the emotions they feel when reading about the event and use MIDI-compatible keyboards to write and record a song that represents their emotions and offers encouragement to others. Students post their songs to a secure site that families in the community can access. ***(Engages students in: A variety of explanations and multiple representations of concepts and ideas.)***

Refer to Standard III, Element D for how this classroom example also aligns to this element.

Secondary finance: In finance class, students are learning how to create balance sheets. The teacher breaks down the balance sheet into each of its components: assets, liabilities, and owner's equity. Each component is defined and further broken down by into their specific elements. Through the use of use of financial software students will utilize, the teacher models how to create a balance sheet. ***(Breaks down concepts into instructional parts and teaches each part using appropriate effective strategies and/or tools.)*** By displaying the balance sheet on a SMART Board, the teacher is able to highlight each component and make connections for how they impact a company's profit. ***(Provides explanations of content that are Accurate. Clear. Concise. Comprehensive.)*** *A*dditional explanations of balance sheets are presented through the use of actual balance sheets from corporations with which the students are familiar. Students work in pairs to identify each component and analyze for profitability. ***(Uses instructional materials that are accurate and appropriate for the lesson being taught. Employs a variety of instructional strategies to address student needs.)***

Coaching/Self-Reflection Questions

- How will I break down concepts into instructional parts that support student learning of the content?
- How will I select accurate and appropriate instructional strategies and materials to utilize for each lesson?
- How will I ensure the instructional strategies utilized address student needs?
- How will I plan explanations of content that are accurate, clear, concise, and comprehensive?
- How will I decide what is the most important information to explain so students can master the content?
- How will I engage students in a variety of explanations and representations of concepts and ideas?
- How will I engage students in inquiry methods that allow them to explore new ideas and theories?

Element E

Teachers develop lessons that reflect the interconnectedness of content areas/disciplines.

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in developing lessons that reflect the interconnectedness of content areas/disciplines, they must be able to emphasize the key concepts of their content area and connect these to other powerful ideas within the content as well as across disciplines. To be successful in any content area, students need to be able to read and communicate their thinking orally and through writing. Therefore, literacy must be an integral part of the instruction in all content areas.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Emphasizes key concepts and connects them to other powerful ideas within the content area.**

  An effective teacher utilizes her depth of content knowledge and an array of instructional strategies to lead students to connect what they are learning to other powerful ideas and concepts. This enhances students' understanding and provides additional relevance and context to what's being taught. Research shows that, … students should consistently experience curricula rooted in the important ideas of a discipline that requires them to make meaning of information and think at high levels. (Tomlinson & McTighe, 2006, p. 84)

Key concepts are the essential learnings students must obtain in order to master the content being taught. These may include vocabulary terms, explanations of mathematical computation methods, causes of historical and scientific events, or elements of an artist's work. Without an understanding of the key concepts, it is difficult for students to move beyond the procedural or factual level of a content area to the more enduring conceptual understandings.
Connecting these key concepts to other powerful ideas can provide students with an understanding of how learning is an interconnection of skills, events, and/or experiences that deepen their knowledge and conceptual understanding of the content.

Examples of powerful ideas:

- History: Connecting the causes of various wars to people's desire for power and/or freedom.
- Math: Connecting the different computation methods so students see how learning the key concepts of addition relate to the key concepts of multiplication.
- Science: Connecting scientific discoveries in the medical or environmental field to current day issues related to these topics. Helping students understand how the past impacts the present and future solutions to medical and environmental problems.
- Art: Connecting the details in an artist's work to the theme of their work. Helping students see how the message an artist wants to convey impacts their work.

- **Connects lessons to other disciplines and/or content areas.**

The teacher who makes connections to other disciplines is able to communicate to students how concepts and skills they are learning in one content area are connected to concepts and skills in other content areas.

When making connections to other disciplines, the teacher should keep in mind the key concepts of the content being taught and how these concepts support student learning in other content areas. Any connections made should be for the purpose of enhancing student progress towards mastering the learning objective.

Examples of connections across disciplines:

- Art and Social Studies/US History
  - Create pottery similar to that of Native Americans and include symbols or pictures found in Native American art
  - Dye material using some of the methods used by colonists to create their own designs on cloth
  - Create murals to depict different geographical areas or to support an issue, such as environmental protection
- Physical Education and Science
  - As students learn about the importance of exercise and the impact of aerobic and anaerobic activities on the body, the teacher may discuss how a healthy heart impacts the health of the body. Students learn how inactivity and obesity impact heart disease.
- Math and Science, Social Studies, and Physical Education
  - Students are presented with problems that include information related to what they are learning in other content areas, such as:
    - Distances between geographical locations
    - Speed at which a car is traveling and how this impacts distance travelled in a given time period
    - Batting average for a baseball player or a team's winning average
    - Perimeter of a football field or basketball court
- Literacy and Science and Social Studies
  - Read texts based on topics students are studying in other content areas. Highlight information learned about the topic, and discuss how it connects to the information students are learning in the content class.
  - Write expository or persuasive essays using topics students are studying in other content areas. Students may incorporate information learned from content classes in their essays.
  - Make connections between multiple meaning words, roots, and/or affixes and what they mean in different content areas or applications. Use these connections to help students determine meanings of unknown words.

Partially Proficient rating level

Professional Practices: The Teacher:

Implements instructional strategies to ensure that instruction:

- **Articulates content and interdisciplinary connections.**

The teacher who articulates **interdisciplinary** connections provides clear and concise explanations for how concepts and skills in one discipline impact those in another. Strategies may include summarizing in social studies and science or the application of measurement skills in art. In language, students may learn how to use maps and graphs when reading informational text and then apply writing skills to describe the meaning and importance of the concepts presented by these visuals. By implementing these strategies, the teacher can help students make connections for what there are learning across disciplines.

Interdisciplinary connections help students explore overarching themes or concepts. In real life, we are not able to isolate math, writing, science, or history into 45 minutes of our day. Instead, we use all of our knowledge to help us solve everyday problems in the workplace and at home.

Early childhood students spend the majority of their time exploring and trying to make sense of their world. They engage in sorting, describing, building, and experimenting with objects. These activities are preparing them for more formal mathematics and science activities in school. The teacher of early childhood students should guide these activities so that writing, speaking, and listening skills, along with concept development, grow and expand beyond incidental or isolated learning.

The majority of middle and high school students learn content in isolated settings by different teachers. Therefore, the importance of articulating interdisciplinary connections for secondary students is critical. This requires teachers to be aware of topics being taught in multiple content areas for which they may not be the primary teacher. For this to occur, opportunities for team collaboration need to be provided during which time teachers can support one another in making connections to their content area.

Reference the following external resources for additional information:

- Article: "The Art and Craft of Science" by Robert Root-Bernstein and Michele Root-Bernstein
  http://www.ascd.org/publications/educational-leadership/feb13/vol70/num05/The-Art-and-Craft-of-Science.aspx
  Article explains the importance of enhancing the teaching of science through teaching of the arts.
- Article: "The Art of Science Teaching" by Pam Galus
  http://www.ascd.org/publications/classroom-leadership/oct2001/The-Art-of-Science-Teaching.aspx
  Article provides strategies for the integration of art and science.
- Website: teachinghistory.org
  http://teachinghistory.org/
  Website provides strategies and resources for K–12 teachers to teach US history through interdisciplinary connections.

- **Integrates literacy skills across content areas.**

  Authentic literacy is integral to both what and how we teach. It is the "spine" that "holds everything together" in all subject areas (Phillips & Wong, 2010).

  Content is what we teach, but there is also the how, and this is where literacy instruction comes in. There are an endless number of engaging, effective strategies to get students to think about, write about, read about, and talk about the content you teach. The ultimate goal of literacy instruction is to build a student's comprehension, writing skills, and overall skills in communication. (Alber, 2010, para. 8)

Examples of strategies that integrate literacy across content areas:

- Vocabulary development: Explicitly teaching the vocabulary associated with a content area builds students' reading and communication skills. The use of concept maps (such as the Frayer model—http://www.readingeducator.com/strategies/frayer.htm), creating illustration of the words, using new vocabulary in oral and written communication, and making connections to words they already know can all support students in vocabulary development.
- Annotating text: The skill of annotating a text supports students in comprehending a text in order to gain content information. Purposes for annotating a text:
  - Locate evidence to support a claim.
  - Identify main idea and supporting details.
  - Analyze the validity of an argument or counter-argument.
  - Determine author's purpose.
  - Identify character traits/motivations.
  - Summarize and synthesize.
  - Define key vocabulary.
  - Identify patterns and repetitions.
- KWL charts: Students record what they currently know about a topic, what they want to know, and what they learn. This activity can support students in developing questions that guide their learning and reading of texts. As they read, students are engaged in actively asking questions and looking for answers to their questions, which supports their comprehension and engagement with a text.

- Writing: Students write for a variety of purposes. An essential skill for 21st century learning is the ability to communicate one's ideas. In all content areas, students need opportunities to communicate their thinking through writing, which can include the following genres:
    - Brochures
    - Editorials
    - Diary entries
    - Timelines
    - Research or expository writing
    - Constructed responses to text dependent questions
    - Advertisements

Refer to Standard I, Element B ALL TEACHERS.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Clarifies and elaborates on interdisciplinary connections for students.**

The teacher who clarifies and elaborates on interdisciplinary connections is able to challenge students' thinking so they are equipped to independently make connections that accelerate their learning.

Reference the following external resources for additional information:

- Article: "Ten Ways to Integrate Curriculum" by Robin Fogarty
  http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_199110_fogarty.pdf
  Article describes different models teachers may use for making interdisciplinary connections for students.
- Article: "Integrating Curriculum Planning Wheels Turn Curriculum Around" published by ASCD
  http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_199110_palmer.pdf
  Article describes how a group of teachers in Maryland uses a planning wheel to make interdisciplinary connections for students.

- **Employs instructional strategies that include literacy, numeracy, and language development across content areas.**

Evidence for this Professional Practice combines the integration of literacy, numeracy, and language development in the teaching of all content areas.

Refer to Partially Proficient Professional Practice, Integrates literacy skills across content areas for information related to the integration of literacy.

Numeracy:

The teacher who employs instructional strategies that include numeracy:

- Identifies the specific numeracy demands of their content area.
- Provides learning experiences and opportunities that support the application of students' general mathematical knowledge and skills.
- Uses the language of numeracy in their teaching as appropriate.

Reference the following internal resource for additional information:

- Strategies for Employing Numeracy across Content Areas
  Document lists strategies for employing numeracy in all content areas.

Language:

Language development provides students with the skills they need to communicate their thinking. For students to communicate as mathematicians, scientists, historians, artists, musicians, writers, and/or authors, they need the appropriate academic language of the content as well as that of an educational setting.

> Academic language is the language used in textbooks and assessments. It is the language or vocabulary associated with concepts, skills, and content taught in classrooms. It is also the language of formal communication. For students to be able to comprehend the teacher's instruction, discuss what is being learned, communicate their ideas, read for different purposes, and write about their learning, they need to understand and be able to use academic language (Scarcella, 2003).

Examples of content academic language:

- Mathematics: equation, fraction, exponent, and monomial. Often mathematical terms have multiple meanings, which can lead to confusion in meaning (i.e., square, coordinate, degree).
- Language arts: text, main idea, inference, prediction, and comprehend.
- Educational settings: explain, describe, justify, and determine.

Instructional strategies for academic language development:

- Identify the structure and genre of the text that will be utilized and the vocabulary needed to comprehend the text. (e.g., a lab report for chemistry requires different academic structure and language than a newspaper article for social studies or a novel for language arts).
- Provide explicit instruction and analysis of the text to support students' comprehension of the text (e.g., teaching students how to deconstruct a word problem in algebra requires different academic language than deconstructing a poem in language arts or a proof in geometry).
- Provide scaffolded instruction on the use of academic language both orally and visually (e.g., display vocabulary that students will need to understand and utilize; provide graphics to support vocabulary meaning; incorporate academic language during direct instruction; provide sentence stems that include the academic language of the concept or skill being taught).
- Establish expectations for accountable talk students will use during student-to-student interactions and collaborative work (e.g., "Today when you explain your answers to a word problem, I expect to hear _____.").

Reference the following external resources for additional information:

- Document: Academic Vocabulary and CCSS by the Aspen Institute
  http://www.aspendrl.org/portal/browse/DocumentDetail?documentId=1416&download
  > Document defines academic vocabulary, provides a checklist for selecting academic vocabulary, and discusses the connection of academic vocabulary and text dependent questions.
- Article: "Identifying Academic Language Demands in Support of the Common Core Standards" by Susan O'Hara, Robert Pritchard, and Jeff Zwiers
  http://www.ascd.org/ascd-express/vol7/717-ohara.aspx
  > Article discusses the focus on academic language in the Common Core State Standards, especially as to how it needs to be a focus for instruction for ELL students.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element E will be students who are able to accelerate their learning by making connections between content areas, between lessons, and by applying literacy and math skills across disciplines.

Professional Practices: Students:

- **Makes connections between other disciplines and/or content areas and the current lesson.**
- **Apply literacy skills across academic content areas.**
- **Apply math skills across academic content areas.**
- **Accelerate their learning by elaborating on current lesson with connections to prior lessons within the content area and/or with other disciplines.**

Classroom Examples

Elementary social studies: Students are learning about various types of landforms. The teacher and students begin the unit by defining each type and reading informational texts about landforms. Students maintain a dictionary in which they record the definitions and draw a picture of each type. They also include areas of the United States in which each landform can be found. The teacher leads students to explain how the landforms in a location can impact the weather and plants and animals that live there. ***(Emphasizes key concepts and connects them to other powerful ideas within the content.)*** The unit ends with students creating a landform from clay and writing a description of the landform created. Prior to students working independently, the teacher models how he illustrated a landform based on its attributes. In his model, he uses the sentence stem, "The landform I illustrated is a _____ because a _____ is _____." For example, "The landform I illustrated is a peninsula because a peninsula is surrounded by water on three sides." His explanation includes the academic language associated with a peninsula as well as the language needed to explain his illustration. He also includes in his explanation examples of peninsulas in the United States. As he circulates during students' independent work, he continually questions students about their creation and uses prompts to support them in using the language modeled. ***(Implements instructional strategies to ensure that instruction: Integrates literacy skills across content areas. Employs instructional strategies that include literacy, numeracy, and language development across content areas.)***

Elementary science: Students are learning about plants and the factors that impact their growth. They plant seeds and modify the environments by placing some plants in direct sunlight, others under a lamp, and others under a dark cover. Some plants they water as needed, and others they water twice daily. ***(Emphasizes key concepts and connects them to other powerful ideas within the content area.)*** The teacher has explained to students that as scientists they need to collect data daily and draw what they observe. She reviews how to accurately measure objects so students can correctly track the growth of each plant. The teacher concludes the unit by modeling how to graph data and analyze it for the purpose of drawing scientific conclusions. ***(Employs instructional strategies that include literacy, numeracy, and language development across content areas.)*** She shows students examples of scientific journals to emphasize the need to be detailed and specific in the language they utilize. The unit concludes with students working in groups of three to create graphs and a book of their drawings that demonstrate the impact of each environment on the plants. They collaborate to write what they learned about plant growth based on their findings. ***(Students apply literacy and math skills across academic content areas.)***

Middle school social studies: Students are learning about the Yukon Gold Rush as a means to exploring the essential questions: How is human activity limited by the environment? How has the environment influenced human activity? The teacher begins the lesson by posing the essential questions to students and facilitating a Socratic Seminar. ***(Implements instructional strategies to ensure that instruction: Articulates content and interdisciplinary connections.)*** She guides the discussion by asking students to think of examples, within and outside of social studies, where human activity has been limited by the environment and the environment has influenced human activity. She connects this idea to climate and weather and the human impact on the environment. ***(Emphasizes key concepts and connects them to other powerful ideas within the content area. Clarifies and elaborates on interdisciplinary connections for students.)*** She asks students to recall the literary texts, *Call of the Wild* and *To Build a Fire* by Jack London, and information from a video presented in language arts. ***(Connects lesson to other disciplines and/or content areas.)*** Students are encouraged to build on each other's ideas and ask clarifying and probing questions to their peers. ***(Students make connections between: Other disciplines and/or content areas and the current lesson.)*** After the Socratic Seminar, the teacher asks students to read a selection of primary documents on the Yukon Gold Rush and the hardships miners faced. To support reading comprehension, the teacher asks students to apply the school-wide literacy strategy "Claim, Evidence, So what?" to each document, identifying the claim in the document, evidence that supports the claim, and a short analysis about why the claim matters within the context of the text. ***(Employs instructional strategies that include literacy, numeracy, and language development across content areas. Students apply literacy and math skills across academic content areas.)*** As an exit ticket, students respond, individually, to the two essential questions from the beginning of class, drawing upon evidence from the discussion and the texts.

High school social studies: Students are learning about immigration in the 1860's. Primary sources from the 1860's along with current news articles about immigrants and refugees are used as part of the teacher's instruction. Student tasks include researching the impact of immigration on their community and communicating their findings through graphs and tables. Students also select someone they know who has immigrated to the United States to interview. Using information from the news articles, research, and interviews, students make comparisons between immigrants of the 1860s and immigrants of today (reasons for immigrating, countries of origin, experiences, etc.). ***(Emphasizes key concepts and connects them to other powerful ideas within the content. Implements instructional strategies to ensure that instruction: Integrates literacy skills across content areas. Employs instructional strategies that include literacy, numeracy, and language development across content areas.)***

Coaching/Self-Reflection Questions

- How will I identify the key concepts that need to be emphasized in a lesson?
- How will I ensure the key concepts are emphasized in a lesson?
- How will I make connections between key concepts and powerful ideas within the content?
- What connections will I make between the content being taught and other content areas?
- How will I clarify and elaborate on interdisciplinary connections?
- What literacy instructional strategies will students need in order to master the content being taught?
- What numeracy instructional strategies will students need in order to master the content being taught?
- How will I model use of the instructional strategies for students?
- How will I support students with language development related to the content being taught?

Element F

Teachers make instruction and content relevant to students and take actions to connect students' background and contextual knowledge with new information being taught.

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in making instruction and content relevant to students they must provide opportunities for students to make connections to prior learning, experiences and culture in a manner that supports student engagement and provides opportunities for students to select tasks that accelerate their learning.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Selects instructional materials and strategies based on their:

- **Relevance to students.**

Instructional methods and strategies that have **relevance** are aligned to the learning objective and to students' interests, culture, and learning preferences.

According to Fisher & Frey (2008), "When the objective is clear and instructional tasks align with it, students can share responsibility for learning and will be motivated to do so."

The pressure to achieve and perform on high-stakes tests has never been higher. In many classrooms, this has resulted in tasks for which the only goal is to "do well on the test." For many students, especially lower-performing students, this can result in students learning concepts in isolation of one another and totally disconnected to their experiences and culture.

> Administrators and teachers should work together to reframe the purpose of learning in their schools … use language that focuses on mastering knowledge, improving individual performance or seeing the value of schooling for enhancing one's future (as opposed to performance on a test). (Nichols & Berliner, 2008, What Can We Do? Section, para. 2)

When the teacher selects instructional materials and strategies based on their relevance, they are able to make connections for students between the "what" and "why" for what they are learning by making connections to future learning, other disciplines, and/or life experiences.

- **Central contexts.**

Instructional materials and strategies that are based on central concepts reflect students' contextual knowledge, which is their background knowledge and skills.

> According to contextual learning theory, learning occurs only when students process new information or knowledge in such a way that it makes sense to them in their own frames of reference (their own inner worlds of memory, experience, and response). The mind naturally seeks meaning in context by searching for relationships that make sense and appear useful. ("Contextual Learning Definition - Center for Occupational Research and Development", 2012)

Reference the following external resources for additional information related to the two practices listed above.

- Article: "5 Hallmarks of Good Homework" by Cathy Vatterott
  http://www.ascd.org/publications/educational-leadership/sept10/vol68/num01/Five-Hallmarks-of-Good-Homework.aspx
  Article describes ways to make homework meaningful and relevant for students.

- Article: "Show Us What Homework's For" by Kathleen Cushman
  http://www.ascd.org/publications/educational-leadership/sept10/vol68/num01/Show-Us-What-Homework's-For.aspx
  Article describes how to make homework relevant based on suggestions from students.
- Article: "The Big Wait" by Joseph P. Allen and Claudia Worrell Allen
  http://www.ascd.org/publications/educational-leadership/sept10/vol68/num01/The-Big-Wait.aspx
  Article explains how providing teenagers with relevant work can increase their motivation and interest in school.
- Article: "What's Relevant for YouTubers?" by Johanna Mustaccchi
  http://www.ascd.org/publications/educational-leadership/mar08/vol65/num06/What's-Relevant-for-YouTubers%C2%A2.aspx
  Article explains how media can be utilized to develop lessons that are culturally relevant and motivating.

- **Foundational evidence base.**

Instructional materials and strategies that are foundationally evidence-based are those that are selected based on researched "best practices" and have proven to have a positive impact on student learning.

When selecting instructional materials and strategies, it is important for the teacher to align them to the learning objective and needs of the students. A "best practice" can only be a "best practice" when it is used in a purposeful manner to support and enhance student learning.

Understanding the what, how, and why for use of evidence-based materials and strategies can help the teacher ensure they are utilized purposefully.

In the book *Powerful Learning What We Know About Teaching for Understanding* by Linda Darling-Hammond, the following instructional strategies are identified from the research as those consistently implemented by highly effective teachers and that result in meaningful learning for students.

- Creating meaningful tasks that reflect how knowledge is used in everyday life outside of the classroom.
- Engaging students in active learning so that they apply and test the knowledge they have.
- Drawing connections to students' prior knowledge and experiences.
- Assessing student learning continuously in order to scaffold the learning process step-by-step and teach to students' needs and interests.
- Providing clear learning goals and constant feedback for how students are progressing towards meeting the goals.
- Modeling their own thinking and encouraging students to evaluate and label their thinking.

(Adapted from Darling-Hammond, 2008)

For more information on these strategies, reference Standard III.

- **Links lessons to students' prior knowledge.**

Prior knowledge is a composite of what students have learned from both their academic and everyday experiences. Students learn and remember new information best when it is linked to relevant prior knowledge. When the teacher links lessons to prior knowledge, she is able to build on students' familiarity with a topic.

Previewing activities prepare students for the lesson and establish a connection between new and previously taught content. These activities are particularly useful for students with limited background knowledge. (Marzano, 2007)

Examples for how to link lessons to students' prior knowledge:

- Questioning: Questions can be a powerful review activity when they are used to assess student learning from previous lessons. Questions may be used to review vocabulary or previously taught content. Example follows:
    - Teacher: "Yesterday we made inferences about a character's traits. How did we do that? How did we connect text evidence to our schema? What is our schema? Today, we are going to use the same process and infer about what a character may be thinking or feeling."
- Summarizing: A brief summary of previous learning experiences can help students know what to expect and how the lesson activities are connected to previous learning and unit goals. A summary may consist of connecting a series of lessons to unit goals or academic standards for the purpose of viewing how concepts or skills have been scaffolded for student mastery. Examples follow:

    Teacher: "We have been learning about the events that led to the Revolutionary War. We examined the impact of taxes imposed on the colonists by the King and Parliament. We looked at the impact of the Boston Tea Party on the relationship between England and the colonists. Today, we are going to learn about the Boston Massacre and its impact on this relationship."

- **Encourages and provides opportunities for students to make connections to prior learning.**

As referenced previously, it is important for the teacher to make connections to students' prior learning so they can build on what they already know about a topic or skill. Once the teacher has made these connections, the next step is to encourage students to make these for themselves and for their peers.

Examples for how students can make connections to prior student learning:

- Students may summarize previous learning by:
    - Using their notes to summarize learning over a series of lessons.
    - Reviewing vocabulary and explaining how it has connected to concepts learned.
    - Reviewing key individuals and how they impacted the concepts being taught.
    - Talking with peers to review key concepts previously learned.
- KWL Chart: A KWL chart can be used by the teacher to assess students' thinking by asking what they Know, what they Want to Know and what they Learned. By reflecting on what they already know about a topic, students can use prior learning to make connections to new learning and formulate questions that guide their learning. Example:

    Teacher: "We began our unit on Claude Monet and Impressionism by completing the K and W portions of our chart. Let's review some of things you said you wanted to know about this type of art. Based on the lesson yesterday, what things have you learned? What do you still want to know? As we continue our study of Monet and Impressionism, record questions you have and we will add them to our KWL chart. Your questions can help guide our unit of study."

Partially Proficient rating level

Professional Practices: The Teacher:

Delivers lessons and units and uses instructional strategies that:

- **Help students connect to their learning by linking the current lesson with prior knowledge, experiences, and/or cultural contexts.**

Students should have an opportunity to connect what they are learning to their classroom, their home environment, their community, and/or or the global community. When instructional strategies used are relevant to students' experiences and culture, they are motivated to learn and engage with tasks which can result in transference of learning.

Prior knowledge: *Refer to professional practices under Basic.*

Experiences or cultural contexts:

> According to Allen & Butler (1996), " … matching the contextual conditions for learning to the cultural experiences of the learner increases task engagement and hence increases task performance, (p. 317).

A student's culture or background can also refer to the time period in which students are living. The teacher can become familiar with the culture of students by asking the following questions:

- Who are the popular recording artists?
- Where do the students like to gather outside of school?
- What are some of the rivalries among students?
- What are popular terms and phrases used by students?
- What are the communities like in which my students live or have lived?

- **Provide supports that facilitate engagement.**

  Active engagement of students is necessary if they are to acquire and retain content. Designing and implementing engaging activities in the classroom increases student motivation, energy, and academic achievement. "When engagement is characterized by the full range of on-task behavior, positive emotions, invested cognition, and personal voice, it functions as the engine for learning and development." (Marzano, 2007, p. 99)

Marzano (2007) encourages teachers to consider various strategies to ensure that students are intellectually, emotionally, and socially engaged with the content. He identifies some general factors related to student engagement:

- High Energy—the teacher creates with her enthusiasm about the content.
- Missing Information—mystery, games, inquiry.
- The Self-System—situations where students can talk about themselves or their interests in relationship to the content.
- Mild Pressure—time limits.
- Mild Controversy (debates, discussion).
- Competition (teams or individuals).

An important instructional strategy for facilitating student engagement is the use of appropriate pacing. The following questions can help guide the teacher's planning of time segments within a lesson.

- Is appropriate time devoted to each element of the lesson?
- Will the lesson have a logical flow?
- Will any students experience down time which can result in lack of focus or disengagement?
- How will students who complete tasks early remain engaged in the learning process?
- How will the pacing of the lesson need to be differentiated based on students' needs?

Marzano also suggests nine "action steps" for classroom practice that can increase engagement:

- Use games that focus on academic content
- Use inconsequential competition
- Manage questions and response rates
- Use physical movement
- Use appropriate pacing
- Demonstrate intensity and enthusiasm for content
- Engage students in friendly controversy
- Provide opportunities for students to talk about themselves
- Provide unusual information

(*Eagle County Schools Professional Practices Rubric*, 2012, p. 24)

An additional practice that can facilitate student engagement is the implementation of collaborative learning opportunities. When implementing these opportunities, the teacher can support engagement by communicating expectations for individuals and for the group. When students are assigned meaningful roles and responsibilities that support their success and that of their peers, engagement can increase.

Refer to Standard III, Element F.

Reference this external resource for additional information:

- Website: http://donnayoung.org/homeschooling/games/game-boards.htm
  Website provides templates the teacher may use to develop content specific games that can facilitate engagement.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Delivers lessons and uses materials to ensure that students' backgrounds and contextual knowledge are considered.**

To display proficiency for this element, the teacher not only knows how to select instructional strategies and materials, but knows how to implement them in a purposeful manner so they have a positive impact on student learning.

> Madeline Hunter describes teaching as a dynamic activity, and finds it important to see each teaching situation as unique due to the interplay of many variables. The art of teaching involves not only knowing what to do and how to do it, but also knowing when to do it, and in what situations not to do it. It is this kind of thinking process that takes teaching from a scientific base to an art form (Magestro, 1994).

Refer to professional practices referenced under Basic and Partially Proficient.

- **Provides opportunities for students to self-select tasks that accelerate their learning.**

  According to Vatterott (2009), "When we customize tasks to fit student learning styles and interests, the task becomes theirs, not ours. The goal of ownership is to create a personal relationship between the student and the content."

  Giving students choices is as much a fundamental principle of good teaching as it is a specific intrapersonal teaching strategy. Essentially, choice… consists of building in opportunities for students to make decisions about their learning experiences. Making choices is like lifting weights. The more frequently students choose from a group of options, the thicker their responsibility muscles become. (Armstrong, 2009, p. 92)

Examples of sentence starters to use when presenting students with choices:

- "You may choose to work on _____ or _____." (small and limited)
- "Select the kind of project you would like to do." (significant and open ended)
- "Decide which topic you would like to explore." (choices related to content)
- "Choose from this list a method for…" (choices related to process) "Okay, would you rather stop now or continue talking about this?" (informal and spur-of-the-moment). (Armstrong, 2009, p. 92)

Accelerated learning occurs when students are allowed to learn in their preferred style and in a manner that challenges their thinking and promotes the acquisition of knowledge.

Factors that promote students in accelerating their learning:

- Positive Learning Environment: Students learn best in a positive physical, emotional, and social environment, one that promotes safety and risk-taking and values individual differences.
- Engagement: Students need to be actively involved in the learning process and take responsibility for their own learning. Knowledge is not something students can passively absorb.
- Collaboration: Students need opportunities to share their thinking with others. Learning is a shared experience that involves peer collaboration and communication in which students learn from one another.
- Choices: Students are more motivated to learn when they have a variety of materials and tasks from which to choose based on their interests, learning preferences, and academic needs.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element F will be students who interact with materials in a manner that support their asking questions and solving problems that are relevant to them. They are able to make connections to prior learning and select tasks that demonstrate their ability to transfer knowledge.

Professional Practices: Students:

- **Interact with materials that are relevant to them.**
- **Ask questions and solve problems that are relevant to them.**
- **Make connections to prior learning to understand current content.**
- **Select tasks that demonstrate transfer of knowledge to other theories, ideas, and/or content.**

Classroom Examples

Elementary writing: Students have been working on writing narratives about a vacation they have taken or would like to take. They are learning how to include adjectives to make their details more specific. The teacher reviews the book read aloud, *My Rotten Redheaded Older Brother* by Patricia Polacco, and has students identify the author's use of adjectives. ***(Encourages and provides opportunities for students to make connections to prior learning.)*** As a hook, the teacher brings in a number of objects that students may have used during a vacation (e.g., a swimming suit, a camping stove, a map of Disneyland) to encourage the use of sensory descriptions in their writing assignment. ***(Selects instructional materials and strategies based on their: Relevance. Delivers lessons and units and uses instructional strategies that: Help students connect to their learning by lining the current lesson with prior knowledge, experiences, and/or cultural contexts.)*** Before moving on to the lesson's learning objective and criteria for success, the teacher gives the students a few minutes to explore each item, discuss their findings with a partner, and generate a list of descriptive words to use in their writing (*Eagle County Schools Professional Practices Rubric*, 2012, p. 22).

Middle school science: Students are studying the circulatory and respiratory systems. During their study of how the two systems function and support each other, they also study diseases of the two systems. Students interview adults who have survived these diseases to learn about their lifestyles and changes they made to become healthier. ***(Selects instructional materials and strategies based on their: Relevance. Central contexts. Foundational evidence base.)***The teacher has students utilize the information they have gained to develop plans for a healthy lifestyle which could help prevent heart attacks, lung cancer, etc. Students are provided choices for how they may present their plans (pamphlet, article, PowerPoint presentation, or video) to other students and to the school administration. ***(Provide supports that facilitate engagement.)***They also use the plans to develop a healthy menu for submission to the school cafeteria. ***(Provides opportunities for students to self-select tasks that accelerate their learning. Students interact with materials that are relevant to them. Students ask questions and solve problems that are relevant to them.)***

Secondary history: Students are studying the causes and effects of the Vietnam War. He is aware that his students will connect with the material in more meaningful ways if he is able to make it relevant to their lives. In order to help students place the turmoil of the Vietnam War into perspective, he has the students compare and contrast the causes of the Vietnam War to both the American Revolution and the war in Iraq. He knows that students are much more familiar with those two wars and will draw upon that knowledge to help them understand the complex string of events that led to the Vietnam War. ***(Links lessons to students' prior knowledge.)*** After gaining background information on the Vietnam War, students are provided a list of veterans in the area to interview. The teacher provides a list of questions for students to use, but also allows them to develop some of their own based on what they want to learn. ***(Delivers lessons and uses materials to ensure that students' backgrounds and contextual knowledge are considered. Provides opportunities for students to self-select tasks that accelerate their learning.)*** After completing the interviews, students work in groups of three to identify the impact of the war on soldiers and on their families. They compare their findings to the impact of other wars they have studied during the year in order to identify the common effects of war.

Coaching/Self-Reflection Questions

- How will I select instructional materials and strategies that provide relevance, central contexts, and are foundational evidence-based?
- How will I link lessons to students' prior knowledge?
- How will I encourage students to make connections to prior learning?
- How will I help students to link learning to experiences and their culture?
- What supports will I provide to facilitate engagement?
- How will I provide opportunities for students to self-select tasks that accelerate their learning?

Teacher Quality Standard II

Teachers establish a safe, inclusive and respectful learning environment for a diverse population of students.

The most important action an effective teacher takes at the beginning of the year is creating a climate for learning.
—Mary Beth Blegan, former U.S. Department of Education teacher-in-residence

A positive classroom environment enhances the academic achievement of all students, promotes appropriate classroom behavior, and is welcoming to families and adults. A respect for diversity and the uniqueness of each individual is valued. A sense of community is created in which members encourage and promote the learning of each other through collaboration, communication, and mutual respect as they work to achieve individual and common goals.

Element A

Teachers foster a predictable learning environment in the classroom in which each student has a positive, nurturing relationship with caring adults and peers.

Respect is your most powerful management tool for instilling good classroom discipline. But if the teacher does not have respect then it will not happen.
—Changing Minds.org

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in fostering a positive learning environment, they must model respect and empathy for all students. They must also create an environment in which the diverse perspectives of individuals are valued and nurturing, and caring relationships are established with each student.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Creates a classroom environment that features:

- **Mutual respect.**

  Cultured, polite people can be identified by their manners. The heart of courtesy is respect for persons. The neglect of courtesy leads to the collapse of community, and this can be seen in ineffective schools and classrooms where people demean one another. (Wong, 2005, p. 71)

  Effective teachers treat students with respect in all circumstances. Students gauge the teacher's respect based on what the teacher does rather than what the teacher is thinking. One of the more promising aspects of teacher-student relationships is that it is not a function of what teachers feel. Rather, it is a function of what teachers do. More specifically, students cannot see inside a teacher's head to determine a teacher's thoughts. They cannot see if a teacher is having positive or negative thoughts about the class as a whole or an individual student. Rather, students look at the teacher's behaviors and interpret those behaviors as signs of the teacher's attitude about the class or the individual student. (Marzano, 2007)

Modeling a respectful culture starts with the teacher and filters down into every other aspect of the classroom.

Teaching students to be respectful:

- Stress the importance of students treating others the same way they want to be treated.
- Support students in understanding the consequence of thoughtless, unkind words and actions.
- Role-play difficult situations for students in order to demonstrate appropriate responses.
- Teach students the importance of respecting and thanking others, e.g., writing thank-you notes.

Reference the following external resources for additional information:

- Article: "Creating a Climate of Respect" by Jonathan Cohen, Richard Cardillo, and Terry Pickeral
  http://www.ascd.org/publications/educational-leadership/sept11/vol69/num01/Creating-a-Climate-of-Respect.aspx
  Article describes four goals for creating a classroom climate that fosters mutual respect.
- Article: "Metaphors of Mindful Engagement and a Vision of Better Schools" by Paul J. Baker
  http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_199104_baker.pdf
  Article explains how the metaphors of firms, families, fairs, or forums can promote an environment of mutual respect and academic learning.
- Videos:
  Student Rap on Respect
  http://www.youtube.com/watch?v=iGuT9-_Y5J4&feature=player_embedded
  Student Rap on Stopping Bullying
  http://www.youtube.com/watch?v=7-X3Pu20w24&feature=player_embedded

- **Positive relationships between and among students.**

Teachers who create positive relationships between and among students can be observed displaying the following behaviors:

- Addressing students by name.
- Saying "please" and "thank you" to students and other adults.
- Maintaining a controlled, disarming smile and open stance.
- Listening to and encouraging all students to share ideas and opinions.
- Acknowledging and valuing individual student differences.

When the teacher has the same expectations for respect with regard to student-to-student interactions, students will embrace this behavior and treat each other accordingly. It is important that the teacher hold students accountable for polite, appropriate, and caring interactions among each other. For this to become the norm, the teacher must model and teach student to student dialogue and appropriate interactions. Respectful behavior and positive interactions among students are hallmarks of a well-managed classroom. (*Eagle County Schools Professional Practices Rubric*, 2012, p. 80)

An effective way to teach early childhood students the social skills necessary for developing positive relationships is through the use of literature. The following books may be used for this purpose:

- *The Recess Queen* by Alexis O'Neill
- *The Very Greedy Bee* by Steve Smallman
- Harold B. Wigglebottom series of books by Howard Bemkow

Reference the following internal resource for additional information:

- Student Bill of Rights by Robert Marzano
  Document provides examples of documents teachers may use to support the development of respectful relationships.

Reference additional resources listed under Professional Practice, Empathy for each student.

- **Empathy for each student.**

Empathy plays an essential role in how we communicate and develop relationships. It is a lifelong skill that impacts how we learn and interact with others. A classroom environment that features empathy for each student helps breed a sense of community while teaching students to be emotionally intelligent. However, empathy does not come naturally to all students. Teachers can help students to develop this trait by displaying empathy for each student and teaching students to understand their own emotions as well as the emotions of others.

In his book *Visible Learning*, John Hattie sites the following claims by Cornelius-White:

> … to improve teacher-student relationships and reap their benefits, teachers should learn to facilitate students' development by demonstrating they care for the learning of each students as a person (which sends a powerful message about purpose and priority), and empathizing with students – "see their perspective, communicate it back to them so that they have valuable feedback to self-assess, feel safe, and learn to understand others and the content with the same interest and concern." (Hattie, 2009, p. 119)

> Teachers who display high levels of empathy are able to 'see learning through the eyes of the students' and show students that they understand how they are thinking and how then their thinking can be enhanced. This requires that teachers pay special attention to the way in which students define, describe, and interpret phenomena and problem-solving situations, so that they can begin to understand these experiences from the unique perspectives of students (Gage & Berliner, 1998). Indeed, a powerful way in which to see such learning through the eyes of the students is to listen to student questions, and how students then answer their peers' questions. (Hattie, 2012, p. 112)

Reference the following external resources for additional information:

- Websites: Sponsored by KidsHealth in the Classroom
  Early childhood: http://classroom.kidshealth.org/prekto2/personal/growing/empathy.pdf
  Elementary: http://classroom.kidshealth.org/3to5/personal/growing/empathy.pdf
  Middle school: http://kidshealth.org/classroom/6to8/personal/growing/empathy.pdf
  High school: http://classroom.kidshealth.org/9to12/personal/growing/empathy.pdf
- Website: Sponsored by Teaching Tolerance, a Project of the Southern Poverty Law Center
  http://www.tolerance.org/lesson/developing-empathy
  Website includes lesson ideas for early childhood through high school.
- Article: "Promoting Empathy in Preschool Students"
  https://wiki.uww.edu/other/childdevresource/images/7/7d/Promoting_Empathy_in_Children_Angie.pdf.
  Article provides rationale and ideas for teaching empathy to preschool students.

Reference the following internal resources for additional information:

- Teaching Empathy and Respect through Literature
  Document provides a list of books that can be used to teach empathy and respect at all grade levels.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Creates a classroom environment conducive to learning.**

A classroom environment conducive to learning refers to the tone and climate that motivates students to follow classroom rules, actively participate in learning, and engage with and support the learning of their peers. Creating this type of environment requires a combination of effective teaching skills, positive rapport between teachers and students, and appropriate behavior management strategies.

> A positive, caring, respectful climate in the classroom is a prior condition to learning. Without students' sense that there is a reasonable degree of 'control', sense of safety to learn, and sense of respect and fairness that leaning is going to take place, there is little chance that much positive is going to occur. (Hattie, 2009, p. 78)

Refer to other professional practices for Element A for specific characteristics of an environment that is conducive to learning.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Creates a classroom environment which values diverse perspectives.**

In order to create an environment which values diverse perspectives, the teacher must be knowledgeable of the experiences that lead to students' perspectives and how these impact student thinking and learning. Once the teacher displays value for each student's perspectives, she can foster an environment that allows students to feel safe sharing their beliefs and opinions. This is the foundation for creating a positive learning environment which allows students to be receptive to the diverse perspectives of others.

Colorado classrooms are comprised of students from many different cultures, languages, races, and backgrounds. This type of variety can enrich the lives of students. When teachers provide opportunities for students to engage in discussions with their peers and participate in collaborative learning activities, they support a learning environment that values individuals' perspectives. ***Refer to Standard II, Element B and Standard III, Elements G and F.***

Benefits of these learning experiences are:

- Students learn to work with different types of individuals.
- Students learn to respect and value peers' individual differences.
- Students interact more freely with their peers because they feel safe from ridicule, put-downs, and bullying.
- The class develops a sense of community and trust in which all students feel valued and respected.

Reference the following external resource for additional information:

- Article: "Appreciating and Valuing Diversity" site sponsored by North Central Collaboration for Education in Nondestructive Testing
  http://www.ndt-ed.org/TeachingResources/ClassroomTips/Diversity.htm
  Article provides ideas for how to teach students a respect for diversity.

Reference the following internal resource for additional information:

- Sentence Starters for Teaching Students Accountable Talk
  Document provides examples of sentence starters that can be used for respectful dialogue.

- **Establishes a nurturing and caring relationship with each student.**

  Building relations with students implies agency, efficacy, respect by the teacher for what the child brings to the class (from home, culture, peers), and allowing the experiences of the child to be recognized in the classroom. Further, developing relationships requires skill by the teacher — such as the skills of listening, empathy, caring and having positive regard for others. (Hattie, 2009, p. 118)

  In classes with person-centered teachers, there is more engagement, more respect of self and others, there are fewer resistant behaviors, there is greater non-directivity (student-initiated and student-regulated activities), and there are higher achievement outcomes. (Hattie, 2009, p 119)

  Positive teacher-student relationships — evidenced by teachers' reports of low conflict, a high degree of closeness and support, and little dependency — have been shown to support students' adjustment to school, contribute to their social skills, promote academic performance, and foster students' resiliency in academic performance (Battistich, Schaps, & Wilson, 2004; Birch & Ladd, 1997; Hamre & Pianta, 2001). Teachers who experience close relationships with students reported that their students were less likely to avoid school, appeared more self-directed, more cooperative, and more engaged in learning (Birch & Ladd, 1997; Klem & Connell, 2004). Students reported liking school more and experiencing less loneliness if they had a close relationship with their teachers. Students with better teacher-student relationships

also showed better performance on measures of academic performance and school readiness (Birch & Ladd, 1997). (Rimm-Kaufman, n.d., para. 6)

This professional practice represents the impact from implementation of the practices referenced under Partially Proficient and Proficient. For teachers to establish a nurturing and caring relationship with each student, they must first demonstrate respect and empathy for students. When students trust that their perspectives are valued by the teacher, they are more willing to have a relationship with a teacher that promotes learning and social development.

Common Challenges to Teaching Social Skills Referenced in Element A	
Challenges	**Response**
My job is to teach. I have enough to cover without teaching social skills, too. Social skills are the responsibility of the parents or care givers.	Given the accountability and demands on teachers' time, it can appear overwhelming to add social skills instruction. However, a teacher's job is to develop the whole child and ensure students are equipped with the skills necessary for success beyond the classroom. Students who feel disrespected by their peers or unwelcomed in the classroom are more likely to disengage from the learning process. Not only do they miss out on development of important life skills, but they also miss out on learning critical content.
I can't control how students treat each other.	Teachers can improve student relationships by modeling respect and empathy for each student. Teachers must communicate clear expectations for how students are to collaborate and communicate with one another. Students can help develop group norms and take responsibility for holding their peers accountable to abide by these norms.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element A will be students who demonstrate respect for one another and their teachers as demonstrated by the manner in which they communicate and interact with one another.

Professional Practices: Students:

- **Respect their classmates and teacher(s).**
- **Engage in respectful and open dialogue with each other and their teacher.**

Classroom Examples

Early childhood: A kindergarten teacher notices his students are having difficulty understanding how their actions impact their classmates' feelings. As part of Morning Meeting, he teaches a lesson on feelings using the video http://www.youtube.com/watch?v=Eu-Ztd0XMUo based on the book, *I Feel* by Tessa Court. He focuses on the emotion of "mad" to help his students understand when they and their classmates may have this feeling. As part of the lesson, he provides students with role play cards based on scenarios that have occurred in the classroom. He has each student explain why the action of their classmate would make them feel mad and how their friend can make them feel better. As students go through the day, he asks students what their friends may be feeling and how they can help them feel better. ***(Creates a classroom environment that features: Mutual respect. Positive relationships among students. Empathy for each student.)***

Reference http://esl-kids.com/flashcards/feelings.html for downloadable feeling flash cards.

All grades: A teacher implements numerous strategies in her classroom to promote collaboration and communication among students. ***(Creates a classroom conducive to learning.)*** She teaches students the meaning of perspective and engages students in class discussions in which students are free to share their opinions and beliefs. To support students in working respectfully and collaboratively, the teacher models expectations for student dialogue by teaching students to use phrases, such as, "I agree or disagree with you because … ", "I hear what you're saying, but I wonder if this idea might work.", "Can you explain that more for me?", etc. She explains to students that although they may not always agree with a peer's perspective, they can still demonstrate respect for another's ideas. The sentence starters are displayed in the classroom for students to reference and build on as they develop their own examples of respectful dialogue. ***(Creates a classroom environment that features: mutual respect. Positive relationships between and among students. Values diverse perspectives. Students engage in respectful and open dialogue with each other and their teacher.)***

All grades: A teacher makes a conscious effort each day to greet students at the door with a courteous and positive interaction that helps reinforce a respectful culture in her classroom. She always makes eye contact with students and expects them to greet her in the same manner. ***(Establishes a nurturing and caring relationship with each student.)*** When students answer questions or share their work, she communicates the expectation that other students will track the speaker and listen attentively. ***(Creates a classroom environment that features: Mutual respect. Positive relationships between and among students.)*** Over time, students begin to expect this type of interaction from her and from each other. ***(Students respect their classmates and teacher (s)***. As these behaviors become routine, an environment that is nurturing and supportive of student interdependence becomes established. ***(Creates a classroom conducive to learning.)***

Coaching/Self-Reflection Questions

- How will I ensure my classroom environment is conducive to learning?
- How will I display respect and empathy for all students?
- How will I support students in developing positive relationships with their peers?
- How will I create an environment in which students' diverse perspectives are valued?
- How will I establish nurturing and caring relationships with my students?
- How will I model and teach students to respect one another?
- How will I model and teach elements of respectful dialogue?
- How will I provide opportunities for students to engage in respectful dialogue with one another?

Element B

Teachers demonstrate a commitment to and respect for diversity, while working toward common goals as a community and as a country.

To be effective, teachers must treat the culture, heritage, and language of all their students con respeto.
—Eva Midobuche

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in demonstrating a commitment to and respect for diversity, an environment in which diversity is respected and used to further student learning must be created. By using instructional strategies, activities, and materials that reflect students' backgrounds and value their individual contributions, teachers establish a sense of community in which student interactions are positive and common goals can be established.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Creates a classroom environment in which diversity is used to further student learning:**

Students should be recognized and respected for who they are individually, who they are as defined by the characteristics they possess, and who they are as part of the groups to which they belong. At a minimum, when we think about diversity, we need to consider not only race but gender, religion, physical challenges, economic status, age, disability, sexual orientation, and learning differences.

Respect for **diversity** is essential for the existence of a safe and inclusive learning environment for all students. The teacher who respects and appreciates the diversity of students in the classroom validates and acknowledges the experiences, language, and traditions of linguistically or culturally diverse students. Students who are caring and respectful of others' cultural backgrounds and family structures are more likely to take pride in their own work and the work of their peers.

> In the real world, all students will encounter people from diverse backgrounds. Learning about diversity helps students learn more about themselves as they examine the similarities and differences in other cultures and points of view. In turn, this exposure adds to the breadth of knowledge that a good teacher attempts to create. It also allows students to understand why people are different but still able to live in harmony. When a teacher commits to respect and does so with a complete passion for his or her students, only one result is possible: learning for all children. (Midobuche, 1999, p. 81)

Developing **cultural sensitivity** is one of the first steps towards creating an environment in which diversity is respected. Knowing the nuances and customs of a particular culture, in addition to the artifacts of the culture, is critical to developing cultural sensitivity.

> …culture consistently shapes an individual's behavior and reactions to the behaviors of others. Gaining insight into cultural values and habits helps teachers monitor their reactions to student behaviors that they might deem "negative," but that are considered normal or even valued in the student's home culture. Without such reflection, a teacher's implicit assumptions can inadvertently communicate to students a lack of caring. (Bondy & Ross, 2008, p. 56)

> The only way to gain fluency, comfort and ease is through genuine relationships in which we learn how to talk to and about people whom we perceive as different, often learning that many of our initial assumptions or judgments were, in fact, erroneous. The goal is not to make differences invisible ("I don't see color"; It's such a good inclusive classroom, you can't tell who the kids with disabilities are") but to

develop the language and skills to negotiate diversity. Classrooms cannot feel safe to anyone if discussions of difference are avoided, discouraged, or considered inappropriate. (Sapon-Shevin, 2008, p. 50)

Promoting respect for diversity:

- Create purposeful opportunities for students to collaborate and communicate with peers who are economically, culturally, or linguistically diverse. Provide students with sentence stems or examples of dialogue that demonstrate they are listening and interacting in a respectful manner.

Reference the following internal resource for additional information:

- Sentence Starters for Teaching Students Accountable Talk

  Document provides sentence stems for students to utilize during collaborative conversations with peers.

- Facilitate discussions on topics that help students understand the meaning of diversity. For example, students may discuss the topics of clothing, food, or communication practices of their family or community. A discussion on communication can help students understand that in the Asian culture it is considered disrespectful to speak loudly and that this is why their Asian classmates may not join in loud, lively discussions or celebrations.
- Use moments of conflict between students to discuss the need for tolerance and acceptance. Share stories of culturally diverse individuals who championed for tolerance and overcame challenges.

Reference the following external resources for additional information:

- Article: "Welcoming All Languages" by Linda Christensen
  http://mresaesolendorsement.wikispaces.com/file/view/Welcoming+All+Languages.pdf

  Article explains the connections between one's language and one's cultural identity along with the importance of honoring students' home languages in the classroom.
- Article: "Addressing Diversity in Schools: Culturally Responsive Pedagogy" published by the Center for Nationally Responsive Cultural Educational Systems, SNCCREST
  http://www.nccrest.org/Briefs/Diversity_Brief.pdf

  Article explains how teachers can become culturally responsive in their relationships with students and in their instruction.

- **Used to further student learning.**

The teacher can utilize diversity in a variety of ways to further student learning. Examples include visuals representative of students' cultures, backgrounds, and family structures and graphic representations of vocabulary words that connect to students' languages and culture. Utilizing culturally diverse texts for instruction such as biographies of individuals from a variety of countries and backgrounds, as well as having texts available in the classroom library, can further student learning of content while celebrating student diversity.

Examples of diversity used to further student learning:

- Elementary math: During a unit on money that is focused on the characteristics and values of coins, the teacher provides actual coins from the US monetary system as well as coins from countries represented by the student population. Students are provided opportunities to observe the various coins and discuss the similarities and differences in order to make connections between money with which they may be familiar and the coins used in the US.
- Music: Pictures and instruments from cultures representative of the student population are displayed and played as a regular part of the classroom instruction.
- US History: Throughout the year as various time periods in US history are studied, the teacher emphasizes contributions made by individuals of various races, genders, and nationalities. Pictures of the individuals are displayed, as well as examples of their contributions (i.e., inventions, writings, and photographs).

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Uses instructional approaches and materials that reflect student backgrounds.**

According to Allen & Butler (1996), " … matching the contextual conditions for learning to the cultural experiences of the learner increases task engagement and hence increases task performance" (p. 317).

A student's culture or background can also refer to the time period in which students are living. The teacher can become familiar with the culture of students by asking the following questions:

- Who are the popular recording artists?
- Where do the students like to gather outside of school?
- What are some of the rivalries among students?
- What are popular terms and phrases used by students?
- What are the communities like in which my students live or have lived?

Reference the following external resource for additional information:

- Article: "Cultural Learning Styles: Should Students' Culture Inform Instructional Choices?" published by Teaching as Leadership
  http://teachingasleadership.org/sites/default/files/Related-Readings/DCA_Ch7_2011.pdf
  Article discusses how culture impacts the way in which students learn, and how teachers can differentiate instruction based on these learning preferences.

Refer to examples under Basic Professional Practice, Utilized to further student learning.
Refer to Standard III, Element A.

- **Acknowledges the value of each student's contributions to the quality of lessons.**

When students experience the classroom as a safe, supportive place where everyone's contributions and thinking is valued and respected, they can become motivated to engage in the process of learning.

For this type of environment to exist, students must be provided opportunities to contribute to the lesson. The teacher may do this in a variety of ways, such as class discussions, collaborative learning, student writing, and presentations. It is then the manner in which the teacher responds to students during these activities that communicates dismissal or acceptance and respect for their work.

Reference the following internal resource for additional information:

- A Teacher's Words Matter
  Document provides examples of phrases that can communicate to students they are valued and respected for their contributions and thinking.

The teacher that acknowledges the value of each student's contribution supports students in stretching their thinking by highlighting student progress and creating an environment in which students are encouraged to learn from their peers. The following questions can assist the teacher in creating this type of environment:

- How can I ensure each student has opportunities to contribute to the lesson?
- How will I help each student see that he or she can make a positive difference in the learning of others?
- How will I communicate that I value each student's unique abilities?

Refer to Standard II, Element A and Standard III, Elements F and G.

- **Is welcoming to diverse family structures.**

The teacher who is welcoming to diverse family structures creates an environment in which a student's family is respected and celebrated. This can be done in a variety of ways. The early childhood or elementary teacher may have students draw pictures of their family to share with classmates. Then, engage students in a discussion about how even though families may look different or have different members, they are still all families.

Students may also write personal narratives about their family experiences. By providing opportunities for students to share about their families, the teacher can promote an understanding and tolerance for the diversity in family structures.

The use of materials such as photographs, illustrations, or texts that explore a variety of family structures can also be an effective way to communicate that all families are important and welcomed.

Books for early childhood or elementary students:

- *The Family Book* by Todd Parr — This book celebrates a variety of family structures in a fun way for young children.
- *Who's in a Family* by Robert Skutch — This book describes a variety of family structures.
- *Rosie's Family an Adoption Story* by Lori Rosove – This book describes adoptive families.
- *Families by Ann Morris* — This book can teach students about different family structures around the world.
- *ABC A Family Alphabet Book* by Bobbie Combs — An illustrated ABC book that looks at the lives of gay and lesbian couples and their families.
- *My Family's Changing* by Pat Thomas — This book explains how divorce or separation can change a family.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Establishes processes that result in:

- **A sense of community among students.**

Students need to understand that the classroom belongs to everyone, not just the teacher or a select group of students. This does not happen by accident but requires intentional planning by the teacher. The teacher who creates an environment in which diversity is respected and each student's contribution is valued is laying the foundation for establishing a community of learners within the classroom.

Reference the following external resource for additional information:

- Article: "Building Community in the Classroom" by Ellen Booth Church
  http://www.scholastic.com/teachers/article/building-community-classroom
  Article provides practical ideas for how to build a community in the classroom at the beginning of the school year.

Reference the following internal resource for additional information:

- Strategies for Creating a Sense of Community
  Document provides practical ideas for how teachers can create a community within the classroom.

- **Effective interactions among students.**

The result of an environment in which diversity is respected and a sense of community is established will be effective interactions among students. For students to interact effectively, a mutual respect and skills to communicate effectively with one another must exist.

The teacher can establish processes for effective interactions among students by providing opportunities for students to collaborate and communicate. This may be accomplished through the use of technology, but periodically students need to do this through face-to-face interactions.

> Students' face-to-face interactions give them the chance to support each other academically and personally. When students actively invest in and support their groupmates' learning, they are practicing the skills required to be part of an effective learning team. The combination of personal and academic supports that emerge is termed "promotive interactions." (Frey, Fisher, & Everlove, 2009, p. 38)

> Although technology can be an effective and motivating tool for student communication, students need opportunities to communicate with peers in a manner that requires them to "construct meaning not just from the content of words but also from the gestures, movement and expressions their partners or groupmates use." (Frey, Fisher, & Everlove, 2009, p. 38)

Reference the following internal resource for additional information:

- Sentence Starters for Teaching Students Accountable Talk

  Document provides ideas for teaching students dialogue that demonstrates respect for others' perspectives.

- **Respect for individual differences.**

To establish processes in which individual differences are respected requires the teacher to put structures in place that result in students respecting one another's differences as well as the differences in individuals outside the classroom. One requirement of this process is that the teacher must model respect and incorporate materials and instructional strategies representative of diversity into his instruction. Students need opportunities to collaborate and communicate with students who have different backgrounds and experiences in order to develop the skills needed to respect and celebrate each individual's uniqueness.

Refer to professional practices under Basic and Partially Proficient.
Refer to Standard II, Element A.

- **Positive social relationships.**

> Social relationships with peers provide children with a range of supports and tacit acknowledgment of their acceptance in the social milieu of the school. Studies of young elementary-age children reveal that positive social relations influence their intellectual, communicative, interpersonal, and emotional development (Asher, 1983; Bates, 1975; Hartup, 1978; Parker & Asher, 1987; Rubin, 1980). During the primary grades, children begin to understand and adopt the core values of their culture, and they develop the social skills needed to act effectively on those values (Solomon, Walson, Delucchi, Schaps, & Battistich, 1988). The public school classroom has particular importance as a context for the development of relationships between groups of children who have little contact outside the school setting. (Salifbury, Gallucci, Palombaro, & Peck, 1995, para. 2)

In his book *Visible Learning for Teachers Maximizing Impact on Learning,* John Hattie writes about the importance of positive social relationships for students.

> For many students, school can be a lonely place, and low classroom acceptance by peers can be linked with subsequent disengagement and lowered achievement. There needs to be a sense of belonging and this can come from peers. Certainly, when a student has friends at school, it is a different and better place. In the studies looking at what happens to students when they move schools, the single greatest predictor of subsequent success is whether the student makes a friend in the first month (Galton et al.,

> 2000; Pratt and George, 2005). It is incumbent therefore upon schools to attend to student friendships, to ensure that the class makes everyone welcomed, and at a minimum, to ensure that all students have a sense of belonging. (Hattie, 2012, p. 87)

Positive social relationships reflect a mutual respect for individual differences and empathy for one another, which can result in increased student engagement and learning.

Refer to Standard II, Element A and Standard III, Elements F and G.

- **Common goals for all students.**

The creation of common goals can support the sense of a community and the role each student plays in supporting their peers in meeting the goals.

Common goals can be behavioral or academic. However, when establishing common goals, students need to have input so they are motivated to help the class reach the goal and understand their responsibility in the process. They also need to understand the importance of the goal. The teacher and students need to be able to answer the questions, "Why is this goal important?" and "How will its attainment impact all students?"

Common goals may be created based on the following:

- Classroom attendance.
- On-time arrival to school or class.
- Homework completion.
- Behavior recognitions from other teachers.
- On-task behavior and completion of assignments.
- Assessment goals based on whole-class growth.
- Number of books read.

Once common goals are created, the teacher and students need to continually evaluate their progress towards attainment of the goals and develop necessary next steps. These next steps should be for the class as a whole along with how they can support one another in reaching the goal.

The creation of common goals can also be a motivator and first step in students developing individual goals.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element B will be students who demonstrate respect for the uniqueness of their fellow students and actively seek a variety of perspectives when completing group assignments.

PROFESSIONAL PRACTICES: STUDENTS:

- **Respect the uniqueness of fellow students.**
- **Actively seek a variety of perspectives to complete group assignments.**

Classroom Examples

Early childhood/elementary: Each day, the teacher and students begin class with a Morning Meeting. As part of the daily routine, students greet each other through song or words of welcome and handshakes. The teacher shares a celebration related to the group's progress towards a class goal. ***(Establishes processes that result in: a sense of community among students. Common goals for all students.)*** Students then partner and share a celebration or word of encouragement for each other. ***(Establishes processes that result in: Effective interactions among students. Positive social relationships.)*** Each day the teacher selects one student to share writing from her journal, a picture of her family, or an artifact related to her culture of family. ***(Is welcoming to diverse family structures.)*** The student can call on three peers to ask questions about what they shared for the purpose of

learning more the student's family or culture. *(Creates a classroom environment in which diversity is: Respected. Establishes processes that result in: respect for individual differences.)*

Middle school: To introduce a unit on poetry, the teacher creates a bulletin board of pictures/photographs of poets from diverse cultures and backgrounds. He purposefully selects poets that are representative of the cultures and backgrounds of the students. During instruction, the teacher and students read poems written by the poets and analyze them for the use of figurative language. *(Creates a classroom environment in which diversity is: Respected. Used to further student learning. Uses instructional approaches and materials that reflect students' backgrounds.)* Students work in collaborative groups to compare the different poets' use of figurative language. They read short biographies on each poet and analyze how the poet's culture and background impacted the language used. During group discussions, the teacher reminds students to utilize stems for accountable talk so they can ensure each group member's ideas are heard and respected. *(Acknowledges the value of each student's contributions to the quality of each lesson. Establishes processes that result in: Respect for individual differences.)* Each group sets goals for how it will work cooperatively to complete the task. At the end of each lesson, the teacher has each group reflect on its progress towards its goal and its work on the task as it connects to the rubric for the assignment. *(Establishes processes that result in: Effective interaction among students. Positive social relationships. Common goals for all students.)*

High school Spanish: Students in a Spanish class are working on language and culture projects. A common goal for all students is to understand more fully how elements of a given culture interrelate and form a distinct personality of people. *(Creates a classroom environment in which diversity is respected. Used to further student learning. Establishes processes that result in: common goals for all students.)* Students will explore the culture of Spain by writing travel guides, making videos, filming documentaries, or presenting dramas. They will investigate history, religion, economics, celebrations, geography, education, climate, literature, language structure, and how those elements are interrelated. Although students have a number of product requirements laid out for them, they will add some of their own criteria for success. *(Acknowledges the value of each student's contributions to the quality of lessons.)* Students may conduct research on their own but will work in collaborative groups to discuss how their research is connected and impacts the culture of the people. Guidelines for group discussions are provided to ensure each student shares his findings and contributes to the discussion. *(Establishes processes that result in: effective interaction among students. Positive social relationships.)* Three students in the class are advanced in their grasp of Spanish because language is a high talent area for them; for two students, Spanish is their first language. These students will work with the same concepts as the other students in the class, but, to stretch their thinking, they will do cross-cultural comparisons. They will examine elements of language and culture across at least three language groups other than Spanish, none of which can be a modern Romance language. The students will examine languages, such as Swahili, Farsi, Chinese, Japanese, Hebrew, and Russian, as well as the cultures from which those languages arise. *(Uses instructional approaches and materials that reflect students' backgrounds. Students actively seek a variety of perspectives to complete group assignments.)* (Tomlinson, 2001, p. 88).

Coaching/Self-Reflection Questions

- How will I obtain information on my students' cultures, backgrounds, and family structures?
- What instructional approaches and materials can I use that reflect my students' backgrounds and enhance student learning?
- How will I ensure each student's contributions to the lesson are valued?
- How will I create an environment that is welcoming to diverse family structures?
- How will I develop a sense of community within the classroom?
- How will I provide opportunities for students to engage in effective interactions with their peers and develop positive social relationships?
- How will I model a respect for individual differences and ensure students do the same?
- How will I support students in establishing common goals?

Element C

Teachers engage students as individuals with unique interests and strengths.

Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must make what they learn part of themselves.

—Chickering & Gamson

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in engaging students as individuals, they must be utilizing results from student interest inventories and implementing lessons that reflect these interests. Students must be encouraged to expand and enhance their learning through the use of challenging questions that are appropriately scaffolded. Teachers also acknowledge students' accomplishments and implement lessons that support all students in participating in class activities.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Implements lessons that reflect student interests.**

Interest is a great motivator for learning. Interest can refer to a topic or skill that taps into a student's talents, experiences, or dreams. It can be an area of current passion for the student. It can also refer simply to ideas, skills, or work that is appealing to a student. The term might also be used to think about new possibilities a student could encounter in the classroom that would be a source of future interests. Whatever the source, students become more invested and engaged in learning that reflects their interests.

> By eliciting student interests and opinions, teachers create an environment in which all parties are appreciated and respected. Like everyone, students want to feel that they are "known" — that others understand them, appreciate them, and recognize their unique qualities, skills, interests, needs, and personalities. Teachers who understand this and consciously find ways to demonstrate their interest in students will build a stronger foundation for effective classroom management and learning. (Marzano, 2007)

Human beings want to be known by others. When someone takes the time to know another's interests and engages in conversation on these topics, it is interpreted as an indication of interest and respect. Teachers can use a variety of methods to obtain information on their students, such as:

- Interest inventories.
- Student autobiographies.
- Journaling.
- Multiple intelligence surveys.
- Learning style surveys.

Reference the following internal resources to determine students' interest:

- Determining Your Learning Preference
- Interest Inventory for Students
- Interest Survey on a Content Topic
- Multiple Intelligence Survey for Elementary Students
- Multiple Intelligence Survey for Secondary Students

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Encourages students to expand and enhance their learning.**

The teacher who encourages students to expand and enhance their learning provides opportunities for students to move beyond merely following directions or memorizing facts. Opportunities that expand and enhance student learning can lead to students generating their own questions, applying skills and concepts to a variety of situations, and seeking and offering different perspectives.

Practices that can encourage students to expand and enhance their learning:

- Use of higher-order questions that requires students to analyze, evaluate, and synthesize information.
- Use of debates in which students are required to provide evidence for their ideas and opinions as they discuss topics from a variety of perspectives.
- Implementation of problem-solving activities that requires students to apply what they have learned to new situations or problems.

Refer to Proficient Professional Practice, Asks appropriately challenging questions of all students. Refer to Standard III, Element E.

- **Acknowledges students for their accomplishments.**

An accomplishment is the successful completion of something. This can relate to the obtainment of personal or group goals. Acknowledging students' accomplishments can increase students' self-esteem and confidence and motivate them to continue engaging in the learning process. It is important that the teacher ensures she is not focusing the recognition on the same top performers or on intelligence only, but finds opportunities to acknowledge each individual student's successes and growth. Along with the acknowledgement, it is important for the teacher to label the student's actions that led to the accomplishment. By labeling the student's actions, there is a greater chance the actions will be repeated. ***(Labeling a student's action can also be an example of actionable, timely, specific feedback. Standard III, Element H)***

> A classroom that teaches students to equate their intelligence and their worth with their performance will, in general, stifle the desire to learn and will make students afraid of challenges. After all, the next challenge may show you up and lead you to be branded as less intelligent or less worthy. When students believe in their own ability to change, grow, and improve over time, learning becomes fun and challenges become rewarding. (Dweck, 2006)

Examples of ways teachers can acknowledge student accomplishments:

- Display student work that is representative of a variety of students.
- Implement "A Student of the Week" recognition. Create a space in the classroom to celebrate the student's talents and accomplishments both in the classroom and outside the classroom.
- Share examples of students persevering with challenging tasks and the resulting successes.
- Use student work as exemplars. This practice not only serves to acknowledge a student's accomplishments, but provides a visual of performance expectations.
- Highlight student behaviors that exemplify classroom expectations. Instead of correcting misbehaviors, recognize students who are doing the right thing as a model for others to follow.

Refer to Standard II, Element B Partially Proficient Professional Practice, Acknowledges the value of each student's contributions to the quality of lessons.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Asks appropriately challenging questions of all students.**

Questions that challenge students require them to think beyond just a recall of facts. Challenging questions ask students to process information on all levels of Bloom's Taxonomy. As the teacher plans for these questions, he must consider the critical elements of the content students need to master, the age of the student, and the needs of each student. Questions that challenge students may vary depending on a student's academic needs, language needs, or experiences. Therefore, planning questions prior to instruction is critical for a teacher to be Proficient in this professional practice.

Refer to Standard III, Element E.

Reference the following external resource for additional information:

- Article: "IPADS4Teaching H.O.T.S for Bloom's" by Kathy Schrock
  http://www.ipads4teaching.net/hots-for-blooms.html
  Article provides ideas for teaching higher-order thinking skills and incorporating technology in a manner that enhances student learning.

Reference the following internal resource for additional information:

- Bloom's Taxonomy Question Types
  Document provides examples of verbs to use when planning for each question type. It should be noted that the use of the verbs alone will not generate challenging questions. Teachers need to plan for their use purposefully as it relates to the type of thinking students need to do.

- **Scaffolds questions.**

  A sequence of questions is a continuous or connected series of directed inquiry. Questions can be sequenced in a variety of ways. For example, questions may be ordered from easy to difficult with attention to levels of thinking in Bloom's Taxonomy. Questions can also be sequenced in order to scaffold understanding about the content. For example, in an inquiry-based lesson the teacher might begin with a higher-order/essential question. (*Eagle County Schools Professional Practices Rubric*, 2012, p. 35)

  Consistently, the literature on effective questioning has insisted that questioning sequences are far more effective in promoting student learning than any one type of question. (Dantonio & Beisenherz, 2001, p. 37)

Examples of scaffolded questions:

Levels of Bloom's Taxonomy Scaffold Questions for Financial Literacy

- What is a debit? What is a credit? (Remembering)
- How do you use debits and credits in journal entries? (Applying)
- How can you assess the importance of balancing a general ledger? (Evaluating)

Content-Focused, Inquiry-Based Scaffolded Questions:

- What is the impact of my fossil fuel consumption? (Evaluating)
- What is a fossil fuel? (Remembering)
- How much fossil fuel does it take to heat or cool my house? (Applying)
- How can you calculate fossil fuel consumption? (Understanding)

(*Eagle County Schools Professional Practices Rubric*, 2012, p. 35)

Refer to Standard III, Element E.

Reference the following internal resource for additional information:

- What Does it Mean to Scaffold Questions and Tasks

  Document provides research related to the scaffolding of questions along with examples of scaffolded questions.

Reference the following external resource for additional information:

- Video: Spiral Questions to Provoke Thinking
  http://www.ascd.org/ascd-express/vol4/418-video.aspx

  Video is an example of a middle school teacher scaffolding questions in order to deepen students' understanding of natural disasters.

- **Gives wait time equitably.**

Mary Budd Rowe, Professor of Science Education at the University of Florida, discovered that the only difference between classes in which students posed questions and those classes in which they didn't was the amount of "**wait time**" provided by a teacher. She went on to identify two types of wait time used by effective questioners:

- Wait Time 1 – after asking a question, before designating a student to answer;
- Wait Time 2 – after a student responds, before the teacher reacts or comments.

Subsequent research has confirmed that when teachers use adequate wait time (3-5 seconds) that students give longer responses, give evidence for their ideas and conclusions, speculate and hypothesize, ask more questions, and answer with more confidence. (Walsh & Sattes, 2005, p. 81)

The effective teacher models and labels wait time for students so they begin to provide this for their peers. Students learn that everyone does not process at the same rate or in the same manner. When students learn to provide each other with wait time, the depth of class discussions and student-to-student interactions can increase, resulting in increased learning for all.

Benefits of wait time for students:

- The number of their "I don't know" and no answer responses decreases.
- The number of volunteered appropriate answers by students greatly increases.
- The scores of students on academic achievement tests tend to increase.

Benefits of wait time for teachers:

- Teachers tend to use more varied and flexible questioning strategies.
- Teachers ask questions that require more complex processing and higher-level thinking.
- Teachers are able to accurately assess more students due to increase in student responses and processing time.

- **Ensures that all students participate in class activities.**

Walk in any school, and teachers can be heard discussing their frustration with students who don't complete work or participate in class. Teachers can support student participation by asking the following reflective questions:

- Has the content or skill been taught clearly so that students can be successful?
- Have possible misconceptions been addressed?
- Is sufficient time being provided for students to successfully complete the task?
- Are students clear on routines and procedures for getting help when needed?
- Are classroom resources available to support student independence with the task?
- How am I assessing students and providing feedback on progress and next steps?

When teachers have addressed the above questions and established a classroom culture in which all students feel respected and valued as learners *(reference Standard II, Element A)*, strategies can be implemented that hold students accountable for participating in class activities.

Holding students accountable to engage in class activities communicates the expectation that all students are capable of success, that everyone has something important to contribute, and that effort is valued as much as ability.

Reference the following internal resource for additional information:

- Accountability Strategies

  Document describes strategies that can provide accountability for students to respond to questions and participate in class discussions.

Refer to Standard III, Element E.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element C will be students who actively engage in classroom activities, collaborative learning, and group processes. Students will be able to discuss the content and make connections between what they are learning and their interests. They will challenge themselves and encourage their peers to do the same.

PROFESSIONAL PRACTICES: STUDENTS:

- **Actively engage in classroom activities.**
- **Discuss content and make connections between current lessons and their interests.**
- **Encourage fellow students to participate and challenge themselves.**
- **Actively engage in collaborative learning and group processes.**

Classroom Examples

3rd grade literacy: The teacher is reading aloud a novel to her 3rd graders in order to increase reading and vocabulary comprehension. In one passage, the author writes that a wealthy woman "pulled in her skirts" when a poor orphan boy passed her. For students to understand the meaning of this statement, they have to make an inference about the author's intent. The teacher checks for understanding by asking her students, "How do you think this woman felt about the orphan?" ***(Asks appropriately challenging questions of all students.)*** She provides time for students to process their response, and asks them to write it in their reading journals. ***(Gives wait time equitably. Ensures that all students participate in class activities.)*** As students write, she circulates to check their thinking. When she sees students utilizing evidence from the text along with what they know from their own experiences, she stops and acknowledges their work. ***(Acknowledges students for their accomplishments.)*** Then, she pauses before taking a response from a boy in her class who says, "She didn't like the little boy." The teacher decides to probe a little further, and asks him why he thinks that. ***(Encourages students to expand and enhance their learning. Scaffolds questions.)*** The student replies, "I could tell she didn't like the little boy because she pulled her skirt away when he walked by. That's because she didn't want to get dirty from his dirty clothes." The teacher nods and intentionally waits another few seconds to let this thought permeate the classroom, ***(Gives wait time equitably)*** and, to her surprise, the student continues without prompting, "I don't think she was very nice. It's not a very nice way to think because we are all equal." (Walsh & Sattes, 2005, p. 81)

Middle school science: A sixth grade science class is studying a unit on weather that focuses on the concept of cause and effect. At the beginning of the second lesson in the unit, the teacher reviews the homework from the previous day, which was for students to tell about a time where they witnessed a cause and effect relationship. The goal for the review is to lead students to some big ideas about cause and effect and to hear their thinking about this concept. To accomplish this, the teacher developed a series of scaffold questions to flesh out what students already know about cause and effect. ***(Asks appropriately challenging questions of all students. Scaffolds questions.)*** The questions include:

- What was the cause and effect?
- What is another effect of this cause?
- What could be another cause in this example?
- Could you see this effect coming? Why or why not?
- Does this effect always follow this cause?

The teacher uses this series of questions to push students in their thinking to help them understand the concept at a deeper level. ***(Encourages students to expand and enhance their thinking.)*** (Tomlinson, 2003, p. 28).

High school biology. Students are studying the circulatory system. During the unit of study, the teacher makes multiple connections to student interests and experiences. Several students in the class have recently been sick with the flu or colds. The teacher uses this information to explain the purpose of white blood cells and what it can mean when one's white blood cell count is high or low. ***(Implements lessons that reflect student interests.)*** He also knows from student interest inventories that many students are concerned about health issues, especially childhood obesity. He uses this information to explain the importance of drinking water and eating foods high in iron, as it relates to the work of the red blood cells and circulatory system. He also has students read an article on the impact of weight on the heart. Using information from the article and their own research, students work in collaborative groups to create a persuasive campaign informing teens of the impact of obesity on the circulatory system. Each group creates a goal for its work and assigns each member a specific role within the group. ***(Encourages students to expand and enhance their learning. Ensures that all students participate in class activities.)*** At the conclusion of the unit, one student group is selected to present its campaign at a school assembly. ***(Acknowledges students for their accomplishments.)***

Coaching/Self-Reflection Questions

- How will I obtain information on my students' interests?
- How will I utilize students' interests when planning lessons and materials students will utilize?
- How will I encourage students to expand their learning?
- How will I ensure students are acknowledged for their accomplishments?
- How will I ensure the questions I ask are challenging for all students?
- How will I plan for the scaffolding of questions?
- How will I ensure all students are provided appropriate wait time?
- How will I ensure all students participate in class activities?

Element D

Teachers adapt their teaching for the benefit of all students, including those with special needs, across a range of ability levels.

Learning occurs best in a positive environment - one that contains positive interpersonal relationships and interactions, that contains comfort and order, and in which the learner feels appreciated, acknowledged, respected, and validated.

—Barbara McCombs and Jo Sue Whisler, The Learner-Centered Classroom and School

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in adapting their teaching for the benefit of all students, they must be actively soliciting recommendations from specialists and colleagues to address student needs. These recommendations should then be utilized to design instruction that addresses the learning needs of all students. Student participation and performance is monitored so the teacher can challenge and support each student to learn to his greatest ability.

This element relates to the teacher's adaptation of instruction based on students' behavioral, physical, and/or emotional needs. For information on the adaption of instruction based on students' academic needs, ***Refer to Standard III, Element A***.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Adapts learning environment to address individual student needs.**

The teacher who adapts the learning environment to address individual student needs is knowledgeable about how students' behavioral, emotional, and physical needs impact their learning.

> According to Tomlinson (2003), "Environment will support or deter the student's quest for affirmation, contribution, power, purpose, and challenge in the classroom." (p. 37)

Tomlinson recommends a room environment that is flexible with varied kinds of furniture: tables of different shapes and sizes, spots for quiet individual work, and areas for collaboration. The structure should allow students to move from whole group, to small group, pairs, and individual learning experiences and support a variety of ways to engage in learning. The environment should also support the teacher in interacting with students individually, in small groups, and as a whole class.

Examples of ways to differentiate the environment:

- Seating arrangement of students — proximity of student to the front of the classroom, to the teacher, and/or to other students.
- Calm down space for students to use as necessary or appropriate.
- Visual stimulation—visuals should be displayed in an orderly manner and serve a purpose for student learning or behavior.

Refer to Partially Proficient Professional Practice, Designs instruction to address learning needs of all students.

- **Implements recommendations of specialists and colleagues to address student needs.**

In order to design instruction that addresses the learning needs of all students, the teacher must be willing to seek and implement recommendations of specialists and colleagues with knowledge and experience in addressing a variety of student needs.

This may include specialists from student support services as well as other teachers.

Student Support Services	Teachers
School physical and occupational therapists	Special education teachers
School speech language pathologists	Gifted and talented teachers
School orientation and mobility specialists	Second language teachers
School psychologists	Specialists, such as music, art, band, chorus, and physical education teachers
School audiologists	Interventionists
School nurses	Instructional coaches
School social workers	Content area specialists
School guidance counselors	

When teachers have opportunities to collectively analyze student data and collaborate on strategies and interventions to meet identified needs, teacher and student growth can increase.

Benefits of teachers working together to address student needs:

- Teachers' understanding of essential content and of the needs of their students is deepened.
- Instructional strategies can more appropriately be aligned with students' needs and content goals.
- Teachers have opportunities to implement strategies and then reflect on their effectiveness in order to identify next steps.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Designs instruction to address learning needs of all students.**

Students' learning needs may be impacted by academic, social, emotional, economic, physical, cultural, and/or language factors. For instruction to address these needs, the teacher must be a "student of her students" in order to develop the knowledge and understanding of their learning needs.

Before instruction can be designed to meet students' needs, the classroom environment should promote differentiation and support for all students.

Characteristics of a supportive classroom environment:

- The teacher is attuned and responsive to the affective, cognitive, and physical needs of learners.
- Students feel safe, both physically and affectively.
- The teacher respects and supports the possibilities inherent in each student.
- Individual differences are accepted as natural and positive.
- Students learn to respect one another as learners.
- The teacher and students share in the decision-making process about daily routines and classroom operation.
- Hard work is an expectation.
- Physical arrangements are flexible and support student access to a variety of learning options.
- A range of resources is available that supports student behavioral needs and self-regulation.
- Flexible student grouping capitalizes on student strengths and allows effective attention to student needs.

(Adapted from Tomlinson & Imbeau, 2010)

A critical component of a supportive classroom environment is the development and management of routines and procedures that help students understand, contribute to, and participate in the learning process. These routines are an important component in the design of the teacher's instruction.

Examples of differentiated routines and procedures:

- Using signals to redirect students that may only be known to the student and teacher.
- Providing picture cues to communicate behavior expectations and/or directions for a task.
- Providing space in a classroom for students to spend time when they need to calm down or be alone for a few minutes.
- Allowing students to use headsets to either listen to music while they work or eliminate the sound of noise in the classroom.
- Adjusting the time students may take to complete tasks.
- Providing organizational strategies, such as color-coded handouts and calendars, for students to self-manage their materials and assignments.
- Providing signals for students to obtain assistance from either the teacher or a peer.

Reference the following external resources for additional information:

- Article: "'Teacher, I Need Your Help' What kids with attention deficit wish their teachers knew." by Lisa Gridley
  http://www.additudemag.com/adhdblogs/28/print/10146.html
  Article describes how students with attention deficit disorder can feel in a classroom setting and ways the teacher can support them.
- Article: "Teaching Children with Attention Deficit Hyperactivity Disorder ADHD ADD" published by ERIC Clearinghouse on Disabilities and Gifted Education
  http://www.childrensdisabilities.info/adhd/teaching-adhd.html
  Article describes behaviors of ADHD or ADD students with suggestions for how teachers can modify the classroom environment and instruction.
- Article: "Working with Shy or Withdrawn Students" by Jere Brophy
  http://www.ericdigests.org/1997-3/shy.html
  Article describes how a student's shyness can impact their engagement and learning and ways teachers can support these students.

- **Monitors the quality of student participation and performance.**

In order to create a safe, inclusive, and respectful learning environment, the teacher should be continually monitoring student behaviors. Maintaining a constant watch on students' behavior allows the teacher to collect data that help to determine what causes both appropriate and inappropriate behaviors; this information can be used to determine how to create a safe and respectful environment.

No behavior, whether it is positive or negative, exists in isolation. Student behaviors are often the result of another action. This may be something that occurred in school or at home. Knowing what actions precede student behavior can help determine the appropriate action to either increase desired behavior or decrease inappropriate behavior. Another important step in monitoring the quality of student participation and performance is the design of instruction and tasks that are motivating and meaningful for students. Participation in the process of learning should never be optional. Students should not only want to engage but be held accountable to engage.

> In the traditional classroom, the teacher asks students a question, and only those who know the answer, or who are daring enough to respond, raise their hands. The rest of the class can opt out. When students have the option of nonparticipation, many don't participate. This is especially true for shy students, lower achievers, and early language learners. The result: They don't learn as much or as quickly. (Kagan & Kagan, 2009)

Monitoring the quality of student participation and performance also requires the teacher to establish clear expectations for student behavior. The assigning of roles and responsibilities for group work can help to increase the quality of student participation. ***(Refer to Standard III, Element F.)***

Teachers may monitor the quality of student participation and performance by:

- Conferencing with students during group and independent tasks by asking questions and providing descriptive feedback.
- Asking students to reflect on their level of engagement and collaboration with peers. Allow students to set goals related to their interactions with peers and contributions to the group.
- Having students reflect on their performance on class assignments or homework. When students rate their performance or understanding of a concept or skill, it provides valuable information the teacher can use to monitor student performance.

Reference the following external resource for additional information:

- Student Self-Assessment and Reflections developed by the Indiana Secondary Transition Resource Center http://www.iidc.indiana.edu/styles/iidc/defiles/INSTRC/TuesTips/Student_Self_eval_benefits.pdf

  Document is an example of a form students may complete in order to identify their strengths and areas of need related to a project or activity. This may be utilized by the student and the teacher to monitor participation and performance.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

☐ **Solicits additional input from colleagues to understand students' learning needs.**

The teacher who is Proficient in adapting and designing instruction to address the learning needs of all students is proactive in soliciting input from colleagues that can support the learning of all students. This may include scheduling time for colleagues to observe students, collaboratively analyzing student data, obtaining resources from colleagues, and observing or co-teaching with colleagues.

The opportunity to learn from others' experiences and expertise deepens one's knowledge and strengthens the effectiveness of classroom instruction. Learning is a social endeavor. Just as students need opportunities to interact and learn from their peers, teachers need to engage in collaboration that is solution-oriented and improves the quality of lessons for all students.

○ **Challenges and supports students to learn to their greatest ability.**

Carol Dweck's research reveals that we develop early in life a "mind-set" about what it means to be smart and how we become successful. Students with a fixed mind-set feel a sense of inevitability when they encounter difficulty in school. Students with a growth mind-set believe that if a skill or task is difficult, they can nonetheless achieve mastery because their continuing effort will win the day. Their motivation to work hard is high because they believe the payoff will be worth their investment. (Dweck, 2006)

Challenging all students requires setting high expectations for all students. It also requires the creation of a learning environment in which students feel respected and safe to take risks. Students must trust that their efforts matter and that making mistakes is an important part of the learning process.

The teacher who works to challenge and support students in learning to their greatest ability must:

- Plan instruction that addresses the academic needs and learning preferences of all students. ***(Refer to Standard II, Element D.)***
- Create a classroom environment in which students feel safe taking risks. ***(Refer to Standard III, Element B.)***
- Encourage students to feel a sense of ownership over their learning.
  According to Conley in the article, "A Complete Definition of College and Career Readiness," key characteristics of college and career readiness include: student ownership of learning, which includes goal setting, persistence, self-awareness, motivation, progress monitoring, help seeking, and self-efficacy;

and specific learning techniques, such as time management, study skills, strategic reading, memorization techniques, collaborative learning, technology skills, and self-monitoring (Conley, 2012).

- Provide feedback on students' progress and next steps. ***(Refer to Standard III, Element H.)***

  … effective teachers set appropriately challenging goals and then structure situations so that students can reach these goals. If teachers can encourage students to share commitment to these challenging goals, and if they provide feedback on how to be successful in learning as one is working to achieve the goals, then goals are more likely to be attained. (Kagan & Kagan, 2009)

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element D will be students who advocate for themselves by articulating their learning needs. They are able to apply coping skills and offer support to fellow classmates by sharing these skills.

Professional Practices: Students:

- **Advocate for themselves.**
- **Articulate their learning needs to their teacher and/or parent.**
- **Apply coping skills to classroom situations.**
- **Share coping strategies with fellow students.**
- **Help fellow classmates by offering support.**

Classroom Examples

Elementary writing: Students are working on editing personal narratives. The teacher knows that a student can become easily frustrated when she has to redo her work. The student struggles with spelling, but wants her writing to be "perfect." Prior to this lesson, the teacher meets with a colleague to learn how she supports students in her classroom with this same need. As students begin editing, the teacher reads the student's writing aloud with her as a support in identifying the words she needs to correct. She talks with the student about how writers of the books she reads had to redo their writing many times before it became published. She discusses the character trait of perseverance and that part of learning and doing one's best work includes making mistakes in the process. ***(Challenges and supports students to learn to their greatest ability.)*** To promote her independence, she provides the student with a list of sight words and a picture dictionary that is easier for her to use than the classroom set of dictionaries. (*Adapts lesson plans to address individual student needs.* ***(Implements recommendations of specialists and colleagues to address student needs.)*** Before she moves to conference with other students, she tells her to correct at least two words and then she will come back to check on her progress, and that she is looking forward to reading the final draft of her narrative. ***(Monitors the quality of student participation and performance.)***

Middle school music: Students are identifying different genres of music popular during the 1960's. This study connects to their unit on the Civil Rights Movement in social studies. The teacher has identified two students as real history buffs and knows their knowledge of this time period surpasses that of their peers. They have also been diagnosed as ADHD, so they are challenged by activities that do not allow for movement. The grade level team and specialists teachers have identified activities in each content area that can support the learning of ADHD students. Using these ideas, the teacher addresses these needs by having the students select a song they know that is representative of the 1960's and Civil Rights Movement and create dance movements that depict the message in the song. They will present their song and dance to the class with one of the students acting as a narrator to provide an explanation of the dance movements. ***(Adapts learning environmen to address individual student needs. Implements recommendations of specialists and colleagues to address student needs. Challenges and supports students to learn to their greatest ability.)*** The teacher provides a list of steps the students can follow and check off in order to help them organize their time. ***(Adapts lesson plans to address individual student needs.)*** Throughout the 1960's unit, the teacher checks in with the students to monitor their progress and address any concerns. ***(Monitors the quality of student participation and performance.)***

Secondary history: Students are studying the Great Depression. They have been assigned the task of interviewing an individual who was living during this time period in order to get a first-hand account of the impact on people's lives. The teacher is concerned about two students being able to complete the task. One student is shy and withdrawn, and the other is easily angered when dealing with individuals she does not trust. Prior to assigning the task to the whole class, the teacher plans a time to meet with both students individually in order to explain the purpose of the task and his expectations. He also provides strategies for how to ask questions of older adults that display respect for their life experiences. As the students develop the interview questions, he allows them to role play the interview with him. ***(Adapts learning environment to address individual student needs. Monitors the quality of student participation and performance. Challenges and supports students to learn to their greatest ability.)*** He also suggests individuals they may interview and offers to set up times for them to meet prior to the interview. On the day of the interviews, he joins the student who is easily angered as a silent support. His presence helps the student feel safe and able to engage in the interview***. (Monitors the quality of student participation and performance.)***

Coaching/Self-Reflection Questions

- How will I adapt the learning environment to address individual student needs?
- How will I obtain information on my students' needs?
- How will I design instruction that addresses the learning needs of all students?
- How will I monitor the quality of student participation and performance?
- How will I plan instruction and tasks that motivate students to participate?
- How will I use the knowledge of specialists and colleagues to plan instruction that addresses student needs?
- How will I challenge all students to learn to their greatest ability?

Element E

Teachers provide proactive, clear and constructive feedback to families about student progress and work collaboratively with the families and significant adults in the lives of their students.

Parents are the essential link to improving American education, and schools have to do a better job of reaching out to them. Sending home a report card is not enough. Parents want to help their children succeed in school, and often need guidance on how to be most effective.

—Richard Riley Secretary, U.S. Office of Education 1999

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in providing constructive feedback to families on student progress and working collaboratively with families, they must first establish a classroom environment that is inviting to families. They must also use a variety of methods to initiate communication that result in respectful relationships with students, their families and significant adults.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Establishes a classroom environment that is inviting to families and significant adults.**

The teacher who establishes an inviting classroom for families and significant adults demonstrates the importance of creating a partnership between the school and the student's home. This partnership begins with families feeling welcomed into the classroom by the teacher and the students.

> While all parents want to know how to co-educate their children, not all parents know how to do this. A major barrier for these parents is that they are often not familiar with the language of learning and schools. For many of them, school was not always the most pleasant experience. (Hattie, 2012, p. 188)

A classroom that is inviting has a culture of respect for its members and visitors. The teacher communicates with families in a respectful manner that conveys the importance of the school-home connection, regardless of the family structure or experiences of the adults.

Tips for establishing an inviting environment for families and significant adults:

- Invite family members directly into the classroom to share interests and cultural traditions. This can provide a meaningful learning opportunity for students and support collaboration between families and teachers.
- Schedule opportunities for families to participate during and after the school day. This can accommodate adults with different work hours or other commitments, but who want to be involved in their child's educational experiences. Examples of these opportunities are: Reading Night, Author's Night, Math and Science Activities, etc.
- Implement the creation of family projects, such as, All about Me collages and Family Trees. Displaying these projects in the classroom can create a welcoming and culturally respectful environment for students and families.
- Establish a Student of the Week recognition and invite family members to send in pictures or notes to the student. Family members may also be invited to have a special breakfast or lunch with their student.
- Use journals as a way for students to communicate with families about what they are learning and doing at school. Ask families to respond to the student's writing. Parents may also be asked to respond to a prompt related to a concept being taught or share an experience that connects to a social skill/character trait students are learning. For example, "Describe a time you had to persevere with a task," or "Describe a time when you felt hurt or sad, and explain how you dealt with this feeling."

Reference the following external resource for additional information:

- Article: "Welcoming Children and Families into Your Classroom" published by the National Association for the Education of Young Children
  http://www.naeyc.org/files/tyc/file/11X_%20Welcome%20Children%20and%20Families.pdf
  Article provides ideas for how early childhood teachers can create a classroom environment that is inviting to families and students.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Maintains respectful relationships with students, their families, and/or significant adults.**

  … the right kinds of school-family connections – those built on relationships, listening, welcoming, and shared decision making – can produce multiple benefits for students, including higher grade point averages and test scores, better attendance, enrollment in more challenging courses, better social skills, and improved behavior at school. (Ferlazzo, 2011, p. 10)

Respectful relationships are maintained when the teacher values the background, family structure, and culture of each student and family. The teacher refrains from placing blame or judging, but works as a partner with families to support each student's educational success.

Resources for connecting with families and significant adults:

- Boys and Girls Clubs of America—http://www.bgca.org/
- Coalition for Community Schools—http://www.communityschools.org/
- Communities in Schools—http://www.communitiesinschools.org/
- National Network of Partnership Schools—http://www.csos.jhu.edu/p2000/
- YMCA/YWCA Programs—http://www.ymca.net/, http://www.ywca.org/

Refer to Standard II, Element A.

- ☐ **Uses a variety of methods to initiate communication with families and significant adults.**

  Effective and open communication with families and significant adults is the cornerstone for building positive, respectful relationships between the classroom and a student's home. It impacts the degree to which families become engaged in supporting a student's academic and social growth at school and their sense of partnership with the school.

  School life has changed. Many classrooms are profoundly different from those in which parents sat 30 years ago. The adult is no longer the single authority figure imparting wisdom to the uninitiated. Students often command authority with their knowledge. There is a focus on talk as students share and learn from each other…teachers are challenged to help students learn how to convey the world of school to those who are not participating in it and may not even be familiar with it. (Costa & Kallick, 1995)

Tips for communicating effectively with families and significant adults:

- Communicate with families early in the school year as a means of introduction. This may include expectations for the classroom and opportunities for family involvement. Contact information should also be provided to ensure families feel free to communicate with the teacher when they have concerns or questions.
- Communication should be timely and consistent. Families need to be notified of concerns as soon as they are identified. Waiting to contact families can result in frustration and distrust. Families should never be "surprised" to hear of the teacher's concerns because of lack of communication.

- Communicate positive news about student performance more often than negative news. When families only receive negative communication about a student, it can discourage them from becoming involved as they may begin to feel they are unable to effectively support the student.
- Share ideas and resources families may use at home to support a student. Helping families to use the same language at home for student expectations at school can create a strong partnership between the school and a student's home that promotes consistency and structure.
- Involve families in creating strategies for use in supporting students. Asking families what they have used at home can communicate the importance of family partnerships and the importance a teacher places on their involvement.
- Use language that is clear and understandable to families and significant adults. The teacher should avoid using educational terms or acronyms that may be unfamiliar to families. This can cause them to feel inadequate to support the student and reluctant to become engaged in the educational process.

Reference the following external resource for additional information:

- Student Observation Form for Parents
  http://printables.scholastic.com/content/collateral_resources/pdf/00/COL00_002.pdf
  Document is an example for how teachers may involve families in identifying a student's strengths and areas of needs.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

☐ **Provides clear and accurate feedback to parents and significant adults regarding student needs and progress.**

Feedback to parents needs to be timely, clear, accurate, and actionable. When providing feedback to parents, the teacher needs to provide specific examples of how the student has grown as well as areas for improvement and ways families can support a student's growth.

When the teacher only provides feedback that is negative, parents can feel overwhelmed or defensive. Therefore, it is important for the teacher to recognize a student's progress and share this with families. This can lead families to being more open to receive feedback about areas that need to improve. No matter how problematic a child's behavior might be, noting improvement in some area, even though small, establishes a tone that can contribute to further progress.

Sharing student needs and progress can be a collaborative decision between the teacher and student. While the teacher should select some student work to share, students should be allowed to select others. Student selections should be accompanied by a written explanation of why they chose a particular item to share. This explanation may reveal how the work reflects the student's view of himself/herself as a learner and why the piece of work is important and representative of their progress. Sharing the student's reflections with families can bring them into the feedback spiral of reflection and learning. It can also support the development of a relationship that is built on respect for the student and their family.

One of the most common avenues for providing feedback to parents and significant adults is the parent-teacher conference.

> Everyone likes to be an insider—someone "in the know." Play on this human trait during your annual parent-teacher conferences. Because every parent has an inherent interest in attending their child's conference, this is a unique opportunity to invite input from parents and help them feel comfortable working with you. This comfort can prove to be a base from which parent engagement can flourish. (Ridnouer, 2011)

Reference the following external resources for additional information:

- Article: "Parent–Teacher Conference Tip Sheets for Principals, Teachers, and Parents" from Harvard Family Research Project
  http://www.hfrp.org/var/hfrp/storage/fckeditor/File/Parent-Teacher-ConferenceTipSheet-100610.pdf
  Article provides tips for how to ensure parent-teacher conferences are effective for teachers and families.
- Excerpt from Everyday *Engagement* by Katy Ridnouer
  http://www.ascd.org/publications/books/109009/chapters/Making-Inroads-with-Resisters.aspx
  Excerpt provides ideas for how and why teachers should involve students in parent-teacher conferences.

Reference the following internal resource for additional information:

- Examples and Non-examples of Quality Feedback to Families
  Document provides explanations for why feedback examples are of high quality for families.

☐ **Coordinates flow of information between families and colleagues who provide student services.**

For the majority of families, the classroom teacher represents the student's school. Therefore, it is important that the teacher works with colleagues within the school and/or district who are involved in supporting a student's education to ensure families receive timely communication concerning the student's progress. By coordinating this information, the teacher can help to ensure families do not receive conflicting information that can be confusing or lead to lack of trust in the school team.

This may include:

- Social workers
- Guidance counselors
- Special education teachers
- Gifted and talented teachers
- Interventionists
- Specialists, such as music, art, band, chorus, and physical education teachers
- School psychologists
- Second language teachers

The teacher may also act as an advocate for the student by informing families of services available to students and their families. This may include providing contact information, supporting families in completing necessary forms, providing translations when needed, and scheduling and attending meetings with student service personnel. By coordinating the flow of information between families and colleagues who provide student services, the teacher can help ensure a student's emotional, social, and intellectual needs are being addressed, as well as the needs of the families that can impact a student's education.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element E will be students who communicate freely and openly with teachers and families and significant adults who partner with the teacher in supporting student strengths and addressing next steps for learning.

PROFESSIONAL PRACTICES: STUDENTS:

- ○ **Communicate freely and openly with teachers.**

FAMILIES AND SIGNIFICANT ADULTS:

- ☐ **Discuss student performance with the teacher.**
- ☐ **Participate in school-based activities.**
- ☐ **Partner with the teacher to support student strengths and address next steps for learning.**

Classroom Examples

All grades: As a way to promote student reading comprehension, fluency, and vocabulary, the teacher invites family members and significant adults to read with students during the independent reading block each Friday. She sends home invitations to each family explaining the opportunity to help support students' reading skills. As family members enter the classroom, they are welcomed by the teacher and introduced to their "reading partner." A selection of books and questions they can ask the student after reading is provided. ***(Establishes a classroom environment that is inviting to families and significant adults. Maintains respectful relationships with students, their families, and/or significant adults.)***

For family members who are unable to visit the classroom during the day, the teacher provides resources for them to create recordings. Family members who are bilingual are encouraged to create recordings for second language speakers. After each reading experience with an adult, the student writes a thank-you note and shares how the experience helped her as a reader. ***(Maintains respectful relationships with students, their families, and/or significant adults.)***

All grades: At the beginning of the school year, the grade-level team, or department, sends a newsletter to each family outlining the units of study for the school year. Family members are encouraged to identify topics for which they have interests, artifacts, or experiences that could enhance student learning. Throughout the school year, family members and significant adults are welcomed into the classroom to share their experiences or create videos that can be shared with students. The students maintain a visitor log for their classroom that includes each visitor's name and area of interest. There is also space for each visitor to write a note to the students about their visit. ***(Establishes a classroom environment that is inviting to families and significant adults. Maintains respectful relationships with students, their families, and/or significant adults.)***

Coaching/Self-Reflection Questions

- How will I create a classroom environment that is inviting to students' families and significant adults?
- How will I ensure the relationships I have with students, families, and significant adults are respectful?
- What methods will I use to communicate with families and significant adults?
- How will I ensure the feedback provided to families and significant adults is clear and accurate?
- How will I coordinate the flow of information between my students' families and significant adults and other colleagues who provide student services?
- How will I ensure families and significant adults are aware of services available to students and their families?

Element F

Teachers create a learning environment characterized by acceptable student behavior, efficient use of time and appropriate intervention strategies.

Effective classroom management is essentially invisible, because when students are well-behaved and engaged, the focus is on instruction and learning.

—Rick Smith

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in creating a learning environment characterized by acceptable student behavior, they must communicate clear behavioral expectations and hold students accountable to adhere to their expectations. Teachers must also implement procedures that create a safe and orderly learning environment that results in instructional time being maximized by all students.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Provides clear expectations to guide student classroom behavior.**

  According to Marzano, Gaddy, Foseid, Foseid, & Marzano (2005), "Establishing rules and shared expectations for general conduct helps to lay a solid foundation for effective classroom management." (p. 9)

Just as the teacher takes time to plan instruction of academic content, the teacher should plan for the teaching and reinforcing of classroom rules. Unfortunately, many teachers make the mistake of limiting their "teaching" to reading or stating the rules for acceptable behavior and fail to actually teach them. Students do not learn writing skills from just hearing them stated, but rather from seeing them taught and modeled with opportunities for practice. Similarly, students need to see and hear the teacher model behavioral expectations and have opportunities to practice in order to internalize them and take responsibility for their own actions.

> The most effective classroom management comes in the form of strategies that prevent acting out before it occurs. And those strategies arise from assuming that our students want to be here, want to participate, and specifically, want to learn good behavior. (Smith & Lambert, 2008, p. 16)

> When establishing rules and consequences, it is useful to keep in mind that typically the goal is to have students be responsible for their own behaviors—this way they will learn the life skill of self-management. Therefore, students must understand the reasoning behind each rule and know the potential consequences if the rule is violated. The consequences should be logical and student-based—not labor intensive for the teacher. For example, if a parent is to be called about an infraction, make the child responsible for making that phone call and explaining his or her actions. (Erlauer, 2003)

Teachers may enlist students in setting and maintaining standards of **classroom behavior**. By soliciting student participation, teachers can contribute to students' feelings of ownership and increase the likelihood of students following behavioral expectations.

Refer to Standard II, Element B, Proficient Professional Practice, Establishes processes that result in a sense of community among students.

Reference the following external resources for additional information:

- Excerpt from *Educator's Guide to Preventing and Solving Discipline Problems* by Mark Boynton and Christine Boynton
  http://www.ascd.org/publications/books/105124/chapters/Establishing-Clearly-Defined-Parameters-of-Acceptable-Classroom-Behaviors.aspx
  Excerpt provides guidelines and questions to support teachers in the establishing of rules to guide classroom behavior.
- Article: "Keys to Classroom Management" by Robert and Jana Marzano
  http://home.comcast.net/~reasoned/4410/PDFonCRM/Marzano%20Keys%20CRM.pdf
  Article describes research-based strategies for establishing effective classroom management.
- Article: "Assuming the Best" by Rick Smith and Mary Lambert
  http://www.ascd.org/publications/educational-leadership/sept08/vol66/num01/Assuming-the-Best.aspx
  Article describes strategies for teaching behavior expectations.
- Website
  http://www.adprima.com/managing.htm
  Website provides a variety of tips for establishing classroom management.

- **Holds students accountable for adherence to school and/or class rules.**

A teacher's behavioral expectations are only as strong as a teacher's plan for holding students accountable to the expectations. When planning behavioral expectations, a teacher should ensure the expectations are appropriate for the age of the students and are ones that can be consistently upheld and reinforced.

> When a teacher responds to misbehavior quickly and respectfully, the chance of the student correcting his behavior increases. An effective teacher is consistent and fair in applying consequences with students based on the immediate behavior and not past experiences. Teachers should also focus on correcting the behavior rather than making it personal. This allows the student to maintain his dignity and makes it more likely that he will accept the consequence and make behavioral changes. (*Eagle County Schools Professional Practices Rubric*, 2012, p. 70)

Reference the following external resource for additional information:

- Article: "Building Safer, Saner Schools" by Laura Mirsky
  http://www.ascd.org/publications/educational-leadership/sept11/vol69/num01/Building-Safer,-Saner-Schools.aspx
  Article describes practices for helping students learn to confront their unacceptable behavior and the consequences of their behavior on others in order to build a community of learners.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Puts procedures in place to maximize instructional time.**

> It's just not possible for a teacher to conduct instruction or for students to work productively if they have no guidelines…inefficient procedures and the absence of routines for common aspects of classroom life…can waste large amounts of time and cause students' attention and interest to wane. (Emmer, Evertson & Worsham, 2003, p. 17)

Teachers should spend time at the beginning of the year teaching and practicing classroom procedures. In order to maximize instructional time, there should be a consistent and smooth execution of procedures and routines throughout the lesson, which is evidenced by student behavior. Students should practice and/or be aware of procedures and routines for daily expectations as well as for special circumstances that disrupt the normal flow of class.

The following generalizations should guide the design and implementation of classroom procedures:

- Procedures should be established at the beginning of the school year with the understanding that students will need reminders and practice, especially when procedures are altered based on changing classroom needs.
- Procedural expectations should describe specific behaviors students are expected to display so they can be understandable to all students.
- Students should have opportunities to assess and modify their performance of the procedures.

(*Eagle County Schools Professional Practices Rubric*, 2012, p. 83).

Within the course of a school day, there can be numerous procedures teachers need to implement in order to create a safe and orderly learning environment and maximize instructional time for all students.

Reference the following external resource for additional information:

- Article: "Maximizing the Efficiency and Structure of Your Classroom" published by Teaching as Leadership
  http://teachingasleadership.org/sites/default/files/Related-Readings/CMC_Ch3_2011.pdf
  Article provides examples of procedures that can lead to efficiency and structure within the classroom

Reference the following internal resource for additional information:

- Establishing and Teaching Procedures
  Document provides examples of procedures that should be established in the classroom and ideas for the effective use of visuals to teach procedures.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Makes maximum use of instructional time.**

For students to meet the demands of the Colorado Academic Standards, teachers need to provide relevant and purposeful instructional tasks that increase student engagement and result in maximizing instructional time. Effective time management is one of the skills necessary for success in school as well as in everyday life and in the work world. Students need time to practice, rehearse, review, apply, and connect new learning and relate it to their everyday lives. Teachers who effectively manage time give their students the best opportunity to learn and to develop personal habits that lead to wise use of time.

> For each learning experience, the time for each element of the lesson varies with the type of activity and the students' ages. Use of time and choice of instructional strategies are also based on the scheduled time for the learning experience. Time wasted getting materials and supplies at the beginning of the lesson sets a negative tone and encourages off-task behavior. Lectures and seatwork assignments that are too long and group work and hands-on activities that are too short fail to accomplish the learning objective. A hurried ending to the lesson leaves students without closure—one of the key elements important for permanent learning. It is also a critical time for teachers to assess which students accomplished the objective and which students need more time. The old adage "Time lost is never found" rings especially true in the classroom. (McLeod, Fisher & Hoover, 2003)

One way the teacher can maximize instructional time is with the development and communication of signals that support students in self-monitoring their behavior. The use of signals can reduce interruptions to instructional time for redirection of student behavior. Some signals may only be known to the student and the teacher, but the subtlety of the signals preserves student privacy, and its discretion can maintain the efficiency of instructional time.

Examples: Nonverbal and Verbal Reminders:

- Nonverbal Reminders
  - Teacher pauses.
  - Teacher makes eye contact with the student.
  - Teacher walks near the student.
  - Teacher places a hand on the student's desk.
  - Teacher points to the work the student is supposed to be doing.
- Verbal Reminders
  - Teacher says the name of the student, either privately or in front of the class.
  - Teacher states the class rule aloud to the class.
  - Teacher comments on other students who are behaving appropriately.

Reference the following external resource for additional information:

- Article: "Making Every Moment Count: Maximizing Quality Instructional Time" a report from The Time, Learning, and Afterschool Taskforce http://www.reading.org/libraries/reports-and-standards/memc_070620.pdfArticle describes Strategies teachers can implement in all content areas and at all levels to maximize instructional time.

- **Maintains a safe and orderly environment.**

According to Jensen (1998), "The human brain seeks pattern and desires daily events to be logical and predictable."

Teachers can provide a safe and orderly learning environment by establishing clear expectations and logical consequences for students that are implemented in a consistent and predictable manner.

Classroom environments need to be planned to suit the needs of the educational program they serve. The environment supports the learning process by physically providing equipment and setup to facilitate smooth implementation of student and teacher tasks. The environment should allow for easy access of resources, configuration of grouping arrangements, and movement by members of the classroom.

Clear traffic patterns for teacher and student movement within the classroom are essential to student safety. Ensuring clear pathways for movement, securing electrical equipment, and organizing storage of supplies and students' belongings can create an environment that is safe and orderly.

Cleanliness is an important characteristic of a safe environment. Periodically clearing the surfaces of work spaces can reduce the risk of student injuries and illnesses. Keeping the classroom free of clutter can reduce distractions and accidents.

Tips for a safe and orderly environment:

- Electrical cords should be properly secured so that students will not trip over them. (Refer to building safety codes for specific regulations.)
- Evacuation maps should be displayed so they are visible to all members of the classroom.
- Trash cans and recycle bins should be available to reduce excess paper and avoid clutter.
- Disinfectant wipes or other cleaning supplies can be used by the teacher and students to clean common surface areas.

When supplies, equipment, and resources are organized and accessible, students are more likely to be independent learners. When students are able to work independently, there is a reduction in behavior management issues and an increase in student engagement can occur. Therefore, it is advantageous to everyone when students can help themselves to frequently used supplies so that learning is not interrupted and instructional time is maximized.

Consistently displaying visual supports in the same place for each lesson not only makes them easily accessible, but also increases the likelihood they will be utilized by students.

> When wall space and the overall appearance of the classroom are aligned with the learning goals and instructional priorities, students receive reinforcement for the value of what they are learning and why they are learning it. (Marzano, 2009, p. 202)

Visuals displayed on walls should have strong instructional purposes and not just serve as decorations.

Reference the following internal resource for additional information:

- Purposeful Use of Visuals

  Document identifies benefits from the use of visuals and suggestions for how to create and utilize visuals in a purposeful manner.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element F will be students who stay on task during class, abide by school and class rules, and accept responsibility for themselves while also helping other students stay on task.

PROFESSIONAL PRACTICES: STUDENTS:

- **Stay on task during class periods.**
- **Abide by school and class rules.**
- **Accept responsibility for their behavior and use of time.**
- **Help other students stay on task.**

> It is important to use effective management strategies to facilitate learning and avoid disruptions. In a smoothly running classroom, standards of conduct must be inferred because an observer may not witness explicit attention to those standards. Rather, student behavior indicates that a teacher has established those standards at the beginning of the year and has maintained them consistently. In a well-managed classroom, students are able to explain the agreed-upon standards of conduct and monitor their own behavior. (Danielson, 2007, p. 57)

Classroom Examples

All grades: On the classroom wall, expectations for student behavior are displayed in a manner that can be easily read by all students. (Pictures of students displaying each expectation may be included on the chart to support younger students and second language speakers.) Although the teacher communicated and taught these expectations at the beginning of the school year, the chart is continually used as a reference to redirect student behavior as well as to recognize appropriate behavior**.** ***(Provides clear expectations to guide student classroom behavior.)***

Students know that the learning objective and criteria for student success are always displayed at the front of the room. Baskets for handouts and homework are labeled and placed near the door so they are easily accessible when students enter the classroom. The teacher, or student helper, ensures they are emptied at the end of each class period, and new handouts are placed in the basked as needed. Materials and learning stations are clearly labeled in students' native languages. ***(Maintains a safe and orderly environment.)*** The teacher ensures the room stays organized by establishing procedures for accessing and organizing materials and assigning jobs that place the responsibility for maintaining order and organization on the students. ***(Puts procedures in place to maximize instructional time.)***

All grades: Students are working in collaborative groups to conduct a science experiment. Prior to the activity, the teacher and students review expectations for group work, which are displayed in the classroom. (Reference the following external resource for an example of rules for group work: http://www.virtualteacher.com.au/groupr.pdf.) A review of safety procedures for handling of science materials and conducting experiments is also provided. Within each group, students are assigned the following jobs: recorder, materials handler, and time keeper. Expectations for each job are reviewed and demonstrated. ***(Provides clear expectations to guide student classroom behavior. Maintains a safe and orderly environment.)*** The teacher explains that when each group member accepts responsibility for fulfilling her role within the group, then instructional time is not wasted and all students are able to learn and be successful. ***(Accept responsibility for their behavior and use of time. Help other students stay on task.)*** As students complete the experiment, the teacher circulates to ensure students stay on task, follow expectations and safety guidelines for group work, and make progress towards mastery of the learning objective. ***(Holds students accountable for adherence to school and/or class rules. Puts procedures in place to maximize instructional time. Makes maximum use of instructional time.)***

Coaching/Self-Reflection Questions

- How will I communicate and teach expectations for student behavior?
- How will I hold students accountable for adherence to school and class rules?
- How will I respond to misbehavior respectfully and appropriately?
- How will I support students in monitoring their own behavior?
- What procedures will need to be established to ensure instructional time is maximized?
- How can I collaborate with students on the development of behavior expectations and procedures?
- How will students demonstrate that they understand behavior expectations and procedures in my classroom?
- How will I maintain an environment that is safe and orderly?
- How will I ensure resources are organized and accessible to all students?
- How can I support students in being safe and organized?

Teacher Quality Standard III

Teachers plan and deliver effective instruction and create an environment that facilitates learning for their students.

Study after study shows the single most important factor determining the quality of the education a child receives is the quality of the teacher. Quality teachers have knowledge of content, curriculum, and standards. They are able to plan and implement instructional strategies in an effective and purposeful manner that enhances student learning and independence. Research shows that when implemented effectively and purposefully, the professional practices referenced in Standard III can result in an environment in which all students can learn and succeed.

Element A

Teachers demonstrate knowledge of current developmental science, the ways in which learning takes place, and the appropriate levels of intellectual, social, and emotional development of their students.

Not all students are alike. We must not differentiate who will learn what but rather how we will teach so that all students have access to, and support and guidance in, mastering the content.
—Paula Rutherford

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in the application of current developmental science to address student needs, they must effectively differentiate instruction and modify content based on research of current studies and knowledge of students' intellectual, social, and emotional development. Proficient teachers expand their knowledge through collaboration with colleagues and apply this knowledge to improve the quality of lessons.

Basic Rating Level

Professional Practices: The Teacher:

- ○ **Modifies content to assure that students are able to work at their ability levels.**

Differentiated content adopts the concept of "readiness." Some students will need to go back to prerequisite **content** in order to move ahead, when advanced learners may need to move ahead before their classmates are ready to do so, and when student Individualized Education Programs (IEPs) direct the teacher to change the content itself.

Reference the following internal resources for additional information:

- Research on Differentiation of Content
  Document defines content and discusses what is needed for it to be differentiated, how teachers can accomplish the differentiation, and why it is important to do so.
- Examples of Modifications of Content
  Document provides examples of this professional practice.

Partially Proficient Rating Level

Professional Practices: The Teacher:

- ☐ **Studies recent/current research to expand personal knowledge of how students learn.**

Effective teachers are also learners. Teachers who are focused on meeting students' individual needs stay informed on current research and teaching techniques. They dedicate time to their own professional growth in order to develop the knowledge needed to ensure all students are achieving at their potential.

- **Builds on the interrelatedness of students' intellectual, social, and emotional development.**

  In his book, *Emotional Intelligence* (1995), Dan Goleman writes that emotional intelligence determines about 80% of a person's success in life. **Emotional development** is interrelated with both physical and intellectual development. Brain researchers tell us that emotions strongly influence our ability to pay attention and retain information (Wolfe, 2001). The implications of this for the way we approach teaching and learning are tremendous. Williams (1996) indicates that emotional and psychological concerns can impede academics unless teachers know how to work with these factors and develop an understanding of the context of a student's world. "The affective side of learning is the critical interplay between how we feel, act, and think. There is no separation of mind and emotions; emotions, thinking, and learning are all linked." (Jensen, 2008, p. 71)

Impact of social development on learning:
Teachers of young children should place a priority on the development of social skills. Unless children achieve minimal social competence by about the age of six years, they have a high probability of being at risk throughout life. Hartup suggests that peer relationships contribute a great deal to both social and cognitive development and to the effectiveness with which we function as adults (1992). He states that:

> Indeed, the single best childhood predictor of adult adaptation is NOT IQ, NOT school grades, and NOT classroom behavior but, rather the adequacy with which the child gets along with other children. Children who are generally disliked, who are aggressive and disruptive, who are unable to sustain close relationships with other children, and who cannot establish a place for themselves in the peer culture are seriously "at risk". (Hartup, 1992)

While it may be challenging for young adolescents to develop a positive self-esteem, it may prove to be especially difficult for minority students. Knowles and Brown (2000) posed the question "How does one develop a sense of self within a dominant culture whose values may be contradictory to those of one's personal culture?" (30). Teachers must create learning environments that account for cultural, ethnic, and racial differences. (Knowles, Brown, & Bird, 2000, p. 30)

The following resources include additional knowledge on the interrelatedness of students' intellectual, social, and emotional development.

- Article: "Emotional Development" by Teresa Odle, Gale Group
  http://www.education.com/reference/article/emotional-development
  Article explains the impact of children's emotional development on their experiences in school.
- Article: "Working with Shy or Withdrawn Children" by Jere Brophy
  http://www.ericdigests.org/1997-3/shy.html
  Article provides suggestions on working with shy or withdrawn students.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Applies knowledge of current developmental science to address student needs.**

The Proficient teacher not only dedicates time to studying current research and teaching techniques but applies knowledge gained to strengthen instruction and meet the needs of students.

- ☐ **Collaborates with colleagues with experience in developmental science to improve the quality of lessons.**

When teachers collaborate they are able to support a shared vision and goal for student learning. The opportunity to learn from others' experiences and expertise deepens one's knowledge and strengthens the effectiveness of classroom instruction. Learning is a social endeavor. Just as students need opportunities to interact and learn from their peers, teachers need to engage in collaboration that is solution-oriented and improves the quality of lessons for all students.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element A will be students who are able to take ownership of their learning. By developing an understanding of how they learn best, students are able to make choices about materials and strategies they need to utilize in order to maximize their strengths while supporting their needs and learning styles related to a learning objective.

Professional Practices: Students:

- **Seek materials and resources appropriate for their personal approach to learning.**

Seek to understand:

- **How they learn best.**
- **Where their time and efforts are best used.**

Differentiation enables teachers to go beyond the question, "How can I make sure a student masters a body of information?" to asking instead, "How can I help create a real learner?"

Students need to develop an awareness of what they are doing, where they are going, and how they are going there; they need to know what to do when they do not know what to do. Such self-regulation, or meta- cognitive, skills are one of the ultimate goals of all learning: they are what is often meant by '"lifelong learning," and it is why students need opportunities to become "their own teachers."

Classroom Examples

2nd grade math: Students are learning how to solve addition word problems. Prior to the lesson, students have been taught various strategies for solving word problems, such as draw a picture, make a table, and decomposition of numbers based on place value. They are placed in groups based on their academic skills and assigned different word problems to solve. ***(Applies knowledge of current developmental science to address student needs.)*** Students with advanced math skills are given a word problem requiring two steps with two-digit numbers and regrouping, students on grade level are given a word problem requiring two steps with two-digits numbers but not regrouping, and students working below grade level are given a word problem with single-digit numbers. ***(Modifies content to assure that students are able to work at their ability levels.)*** The content of the word problems includes students' names and interests in order to provide relevancy. All groups are expected to work collaboratively and record the strategy they applied to solve the word problems and present their strategy to another group. ***(Builds on the interrelatedness of students' intellectual, social, and emotional development.)*** Students need to provide rationale for how the strategy utilized supported their ability to solve the problem. ***(Students seek materials and resources appropriate for their personal approach to learning. Seek to understand how they learn best.)***

3rd grade literacy: Students are assigned vocabulary homework. The teacher elects to assign more complex vocabulary words to a group of students with 6th grade level vocabulary skills and simpler vocabulary words to a group of students with 1st grade level vocabulary skills. She assigns vocabulary words based on the students' current skills rather than having all students work on the same list. ***(Modifies content to assure that students are able to work at their ability levels.)*** *(Tomlinson, 2001, p. 72).*

Middle school science: During a lesson on the solar system, the teacher displays a poster of the planets, students act out the alignment of the planets, and the class reads an article on one of the planets. Within this lesson, materials are utilized that support visual, auditory, and kinesthetic learners' needs. ***(Applies knowledge of current developmental science to address student needs.)***

High school history: Students are studying the causes of the Revolutionary War. The teacher provides direct instruction through the use of a PowerPoint presentation with illustrations of the time period and models how to complete a graphic organizer on the causes and effects of the war. Students are provided a variety of resources to use for completing the organizer, including differentiated texts based on students' reading levels. ***(Incorporates evidence-based strategies into lessons.)*** Students are provided the choice to complete the organizer with a partner or work independently based on their learning preference. Based on results from a pre-assessment, students with prior knowledge of the Revolutionary War are provided extension activities that enhance their understanding for how the causes of the Revolutionary War connect to the desire of people today to have a voice in their government. ***(Makes connections between student data and research-based practices. Students apply skills and knowledge learned in the classroom.)*** Before students are dismissed, the teacher brings the class together to review the learning objective and provide opportunities for students to share the information they recorded on their graphic organizers as well as the connections to current times.

- Tasks may also be differentiated based on students' level of language proficiency.
- A teacher with English Language Learners spends time researching instructional practices to support her students' various levels of proficiency and collaborates with school support staff to plan a variety of tasks. ***(Studies recent/current research to expand personal knowledge of how students learn. Applies knowledge of current developmental science to address student needs. Collaborates with colleagues with experience in developmental science to improve the quality of lessons.)*** Students who are just beginning to learn English record historical events using labeled timelines. Students with developing skills make entries using complete sentences (e.g., in journals or logs) based on timelines or visually supported texts. Students who are able to bridge the gap between their native language and English produce reports by summarizing information from multiple resources.

Coaching/Self-Reflection Questions

- How will I identify students' interests, learning styles and strategies, and academic readiness in order to differentiate?
- How will I plan for a variety of instructional methods during a lesson?
- How will I differentiate the content for students while ensuring students have access to grade-level material?
- How will I continually monitor student readiness?
- How will I use my knowledge of students to develop appropriate grouping arrangements?
- How will I provide opportunities for students to make choices about the resources and materials they will use?
- How will I support students in identifying how they learn best?
- How will I determine if my differentiation is effective?

Element B

Teachers plan and consistently deliver instruction that draws on results of student assessments, is aligned to academic standards and advances students' level of content knowledge and skills.

Effective assessment can motivate the unmotivated, restore the desire to learn, encourage students to keep learning, and ultimately increase student achievement.
—Richard Stiggins

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in delivering instruction that is aligned to academic standards and student assessment data, they must create specific student outcomes and monitor student performance in order to make necessary adjustments in their instructional planning as well as "in-the-moment" adjustments that support students in mastering learning objectives. Armed with knowledge of students' strengths and areas of need, teachers encourage and motivate students to take risks that increase their conceptual understanding of content and effective application of skills. ***(Refer to Standard III, Element H and Standard IV, Element A.)***

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- ☐ **Uses assessment results to guide adjustments to instruction.**

For teachers to know how students are progressing towards learning objectives and to know when to make adjustments in instruction, they *must* be informally assessing throughout a lesson and unit of study.

> Assessment practice in a classroom is **formative** to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers to make decisions about the next steps in instruction. (Black & Wiliam, 2009, p. 9)(Hattie, 2012, p. 143)

Reference the following internal resource for additional information:

- Research on the Use of Formative Assessments
  Document provides research from a variety of sources on the benefits of using formative assessments.

Teachers should continually monitor student progress towards mastery of learning objectives. This may include circulating to observe students' work and conversations between peers. Teachers also ask questions during whole-group, small-group, and individualized instruction that provide information on students' understanding of a concept or skill and their ability to apply it to different contexts.

- ○ **Has specific student outcomes in mind for each lesson.**

Prior to teaching any lesson, teachers must know the learning outcomes for their students and the criteria for success. Until teachers have articulated, to themselves and to their students, the expectations for learning and how mastery will be measured, the instruction can be misaligned to lesson objectives, and assessments may provide limited information on actual student progress towards these objectives.

Reference the following internal resource for additional information:

- Student Outcomes
  Document provides information for how to create student outcomes.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Aligns instruction with academic standards and student assessment results and makes sure students meet objectives while increasing mastery levels.**

Colorado Academic Standards (http://www.cde.state.co.us/standardsandinstruction/coloradostandards-academicstandards) are based on a trajectory of learning across grade levels and within a grade. For students to be successful with these standards, instruction at each grade must be aligned to the grade-level standards. A strong alignment to academic standards ensures students have opportunities to gain the foundational knowledge and skills necessary for success at subsequent grades as well as to be college and career ready.

Instruction that meets the needs of all students is not only aligned to academic standards but is also aligned to student assessment results. For teachers to implement instruction that is differentiated based on students' academic needs, assessment results must drive decisions, such as the choice of student tasks, use of strategies and materials, grouping arrangements, and use of vocabulary. As students make progress towards mastery of learning objectives, teachers should use assessment results to identify increasing levels of mastery.

- **Monitors instruction against student performance and makes real-time adjustments.**

  The greatest power of assessment information is its ability to help a teacher be more effective. When teachers know what students are and are not grasping at any given moment in a lesson, they know when to reteach, when to move ahead, and when to adjust instruction to explain concepts or skills in a different way. Informative assessment is not an end in itself, but the beginning of better instruction. (Tomlinson, 2008, p. 11)

With today's accountability standards, teachers may monitor instruction, notice misconceptions, but feel pressured to get through the lesson material. Taking the time to stop and make real-time adjustments can be a wise use of time to ensure students are able to clear up confusion and make progress towards mastery of the student outcomes. Real-time adjustments based on student performance can save time re-teaching concepts or skills in a future lesson.

There are a variety of ways in which teachers may make real-time adjustments based on student performance (oral and written). Teachers may do this by:

- Providing examples or illustrations that correct student misconceptions.
- Providing additional modeling of a skill.
- Sharing student work that does and does not meet criteria for student outcomes.
- Adjusting the lesson to include additional instruction on pre-requisite skills.
- Adjusting the lesson to exclude instruction on information or skills students already grasp.

- **Assesses required skills.**

If the purpose of assessment is to guide a teacher's instructional decisions during the planning process and during instruction, then assessments must be aligned to the skills students are expected to master. Otherwise, the information provided is of limited use to the teacher or student.

A professional practice referenced under Basic is, "The teacher has explicit student outcomes in mind for each lesson." Once a teacher has developed the student outcomes for a lesson, the next step is to develop assessments that assess these outcomes or required skills. Along with the development of assessments for a lesson, the teacher must also identify the criteria that will provide evidence of student mastery. Teachers may apply the following questions to support assessment development.

- What will I need to hear students say as evidence of their mastery of skills or concepts?
- What will I need to see students do as evidence of their mastery of skills or concepts?

- What will student work need to look like for it to provide evidence of mastery of skills or concepts?

For teachers to utilize student work and responses for instructional decisions, they must ensure their assessments are measuring mastery of the required skills and have clear criteria for student success. Without this, teachers lack the tool they need to make the instructional adjustments needed to support all students.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Encourages students to take academic risks.**

Creating an environment that promotes risk taking**:**

- The freedom to make mistakes and learn from them is critical for risk taking. Teachers should teach students the value of making mistakes during the learning process. Learning from mistakes enables students and teachers to identify strengths and next steps.
- Getting it wrong and then getting it right is one of the fundamental processes for schooling. Teachers should respond to both parts of the sequence, the wrong and right, as completely normal. (Lemov, 2010, p. 222)
- Emphasis needs to be placed on the value of learning, rather than grades or test scores. Students need to find meaning in learning the content or skill itself.
- Demonstrate to students that their success is dependent upon their effort, rather than innate ability. This understanding can motivate students to take risks in areas outside of their "comfort zone."

  In Carol Dweck's book *Mindset*, she describes the importance of teaching students that success is based on effort and resilience, as opposed to talent and intelligence.

  > In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work—brains and talents are just the starting point. This view creates a love of learning and resilience that is essential for great accomplishment. Virtually all great people have had these qualities. It is important for teachers to communicate to students, you are a developing person, and I am interested in your development. (Dweck, 2006)

Reference the following external resource for additional information:

- Interview: How Can Teachers Develop Students' Motivation — and Success? with Carol Dweck by Education World
  http://www.educationworld.com/a_issues/chat/chat010.shtml

Common challenges:

- Test scores and grades are how schools are evaluated: These are an important part of a school's and teacher's accountability. However, many students have high grades and test scores, but do not have the skills to persist when tasks become challenging. Students must understand that struggle is part of the learning process and is a necessary element for problem solving in the real world. They need to develop the confidence to take risks and persevere even when challenges arise.
- Students aren't motivated to move beyond their "comfort zone": Make sure that an environment in which mistakes are seen as part of the learning process has been established. Students need to know that the teacher and their peers are not looking to catch them making mistakes, but to encourage them to extend their thinking. Provide examples of individuals who have persevered through mistakes in order to achieve success.

- **Makes sure students meet learning objectives while increasing mastery levels.**

As teachers become Proficient in using assessments that are based on explicit student outcomes and required skills, they will be able to use data from these assessments to ensure students are meeting learning objectives. As students make progress towards mastery, teachers will need to provide the supports and encouragement

necessary for students to continue increasing their levels of mastery. Increasing levels of mastery can entail either providing opportunities for students to apply the standards (skills, content, and concepts) in novel and/or "real-world" situations *or* allowing students to advance vertically within the standards (beyond the current grade level). The approach taken should be based on content and student needs.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element B will be students who are willing to confer with the teacher in order to address their strengths and next steps. When students are able to initiate activities to support their own learning, they are more motivated to engage in the learning process and take academic risks.

Professional Practices: Students:

- **Monitor their level of engagement.**
- **Confer with the teacher to achieve learning targets.**

Initiate activities to:

- **Address their leaning strengths and next steps.**
- **Take academic risks.**

> The greatest value in formative assessment lies in the teacher and students making use of results to improve real-time teaching and learning at every turn. (Chappuis & Chappuis, 2008, para. 39)

Students need to be provided the tools and opportunities to self-monitor their progress towards mastery of learning objectives in order to identify their strengths and next steps. The aim of teachers is to get students to actively manage and understand their learning gains. This includes evaluating their own progress and being responsible for their learning. As students become comfortable utilizing tools to monitor their learning and apply next steps, their confidence in taking academic risks increases.

Classroom Examples

Kindergarten reading: Students have been learning to identify characters, setting, and major events in a story. Assessment data show students have mastered identification of characters in stories they hear read and ones they read independently. Based on this information, the teacher develops a read-aloud lesson with the objective: Students will be able to describe the setting of a story using details. The teacher builds on student knowledge by explaining the setting is where the story takes place. It is where the characters are found. ***(Aligns instruction with academic standards and student assessment results.)*** The assessment task is for students to draw the setting based on details provided in the story. ***(Has explicit student outcomes in mind for each lesson. Assesses required skills.)*** As students create their illustrations, the teacher circulates and confers with individuals on the details they included. During the conferences, she reminds students of the criteria (time of year, time of day, and three details found in the setting) for their work, which is displayed in kid-friendly language. ***(Has explicit student outcomes in mind for reach lesson. Students confer with the teacher to achieve learning targets.)*** With her support, students refer to the criteria and apply them to their illustration to identify missing details in their illustration. ***(Students address next steps.)***

Students displaying an understanding of setting and the criteria required in their illustrations are given sentence strips and encouraged to write a description of the setting using details in their illustration. As the teacher confers with these students, he asks questions that require students to explain why the setting was important to the story. ***(Encourages students to take academic risks. Makes sure students meet learning objectives while increasing mastery levels.)***

Students who do not have a grasp of the different seasons and/or characteristics of day and night receive additional support from the teacher through the use of examples. The teacher also adjusts instruction by reviewing

the book to support students in identifying evidence of the setting. ***(Monitors instruction against student performance and makes real-time adjustments.)***

4th grade literacy: Students are identifying similes and metaphors in a poem. The lesson begins with students reviewing the definition of each. A student correctly defines simile and provides an example. Another student defines metaphor as "a mean thing to say" and a simile as a "nice thing to say." The teacher immediately recognizes the second child has misconceptions related to figurative language and adjusts instruction in order to clarify the meaning of similes and metaphors. The teacher provides an example of a simile and metaphor that is "nice" and one that could be viewed as "mean" as well as a non-example of a simile. By quickly making adjustments in the lesson, misconceptions related to the use of simile and metaphor are cleared prior to students identifying each in a poem. ***(Monitors instruction against student performance and makes real-time adjustments.)***

6th grade math: During a math lesson, Mr. Martinez wants to get a quick snapshot of his students' understanding around number sense. He writes a 9, 36, 54, and 81 on the board and poses the following questions to his students: "Which of these numbers is different than the others? Why?" After allowing students to think for a while, he asks them to think if there was another number that was different. After a few minutes of think time, Mr. Martinez tells the students to draw a line on their papers. In this area, he instructs them to add answers from other students that make sense to them. Students then share which numbers they think are different and why. He emphasizes the classroom is a "safe zone" and that everyone's thinking is important and valued. Students are encouraged to question their peers if they disagree and need a clearer explanation. ***(Encourages students to take academic risks.)*** One student comments that the 9 is different because it is the only single digit. Another student remarks that the 54 is different because it is the only non-square number. Mr. Martinez poses the question in this open manner rather than asking students to tell him which number was a non-square so that he can gain information on his students' thinking and understanding of square numbers. By listening to student responses and later collecting their work, Mr. Martinez is able to determine the individual knowledge that his students' possess. He applies this information to the planning of future lessons to ensure students' needs are met and grouping arrangements are appropriate. ***(Aligns instruction with academic standards and student assessment results.)*** (*Eagle County Schools Professional Practices Rubric*, 2012, p. 13).

High school biology: The teacher presents the learning objective: Students will apply the principle of co-dominance to determine parents of two mixed-up infants. The lesson begins with a series of questions to assess student understanding of blood types. Only one student is able to identify his blood type. Few students can name more than two blood types. Based on student responses, the teacher stops his instruction and reviews blood types and how an individual's blood type is determined. This knowledge is critical for students to be successful with the lesson objective. ***(Monitors instruction against student performance and makes real-time adjustments.)***

Coaching/Self-Reflection Questions

- How will I ensure my assessments (formative and summative) are aligned with academic standards and student outcomes?
- How will I determine criteria for mastery of standards and student outcomes?
- How will I communicate the criteria for mastery to students?
- How will I utilize the results from assessments to make instructional decisions?
- At what points in the lesson will I need to check for student understanding?
- How will I increase mastery levels for students who master outcomes for the lesson? How will I know when students are ready for this?
- What will I need to do to establish a learning environment in which students feel confident to take academic risks?
- How can I model risk taking for my students?
- How will I plan opportunities to confer with students on their progress towards mastery of learning objectives?
- What supports will students need in order to identify their strengths and next steps?

Element C

Teachers demonstrate a rich knowledge of current research on effective instructional practices to meet the developmental and academic needs of their students.

Varying instructional activities allows all students to learn the same concepts and skills with varied levels of support, challenge, or complexity.
—Carol Ann Tomlinson

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in demonstrating knowledge of current research to meet the developmental and academic needs of their students, they must incorporate evidence-based strategies based on student data that provide for individualized instructional approaches.

Basic Rating Level

Professional Practices: The Teacher:

- **Incorporates evidence-based strategies into lessons.**

Evidence-based strategies can be strategies that are referenced in educational research as effective because of the evidence of their positive impact on student learning. Identification of evidence-based strategies may also result from the teacher's own use of the strategy and evidence of its results. Or, they may be identified through collaboration with colleagues and specialists based on students' developmental and academic needs.

Partially Proficient Rating Level

Professional Practices: The Teacher:

- **Makes connections between student data and research-based practices.**

When student data is utilized to identify the research-based practices that will be implemented during instruction, the teacher is differentiating instruction based on students' developmental and academic needs.

> The key is for teachers to have clear reasons for differentiation, and relate what they do differently to where the student is located on the progression from novice to capable, relative to the learning objective and criteria for mastery. For this to occur, the use of frequent formative assessments is needed to monitor each student's progress towards the criteria. (Hattie, 2012, p. 110)

For the teacher to know how students are progressing towards the learning objective and to identify the most appropriate practices for instruction, she must be assessing throughout a lesson and unit of study.

> Assessment practice in a classroom is **formative** to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction. (Black & William, 2009, p. 9)(Hattie, 2012, p. 143)

> The greatest power of assessment information is its ability to help one be a more effective teacher. When teachers know what students are and are not grasping at any given moment in a lesson, they know when to reteach, when to move ahead, and when to adjust instruction to explain concepts or skills in a different way. Informative assessment is not an end in itself, but the beginning of better instruction. (Tomlinson, 2008, p. 11)

Formative assessments occur when the teacher continually monitors student progress towards mastery of a learning objective for the purpose of making instructional decisions. This may include circulating to observe students' work and listening to conversations between peers. Asking questions during whole-group, small-group, and individualized instruction can also provide important data on students' understanding of a concept or skill and their ability to apply it to different contexts.
Student data may be the result of assessments or student work, but they may also be data on students' social and emotional development, their learning preferences, interests, and culture. ***(Refer to Proficient Professional Practice, Individualizes instructional approach to meet unique needs of each student.)***

Refer to Standard III, Element B.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Individualizes instructional approach to meet unique needs of each student.**

The individualizing of instructional approaches is a way to differentiate that requires the teacher to know where each student begins and how he is progressing towards meeting the learning objective of a lesson. Depending on a student's progress towards the objective, his understanding of procedural skills and conceptual understandings, his social and emotional development, his learning preferences, interests, and culture, the teacher will need to provide different ways in which the student can access the content and skills being taught. In addition to analyzing student data as referenced in the Professional Practice, ***Makes connections between student data and research-based practices***, the teacher may also utilize surveys and inventories for identifying student needs.

Research on developmental needs:

> In his book *Emotional Intelligence* (1995), Dan Goleman, writes that emotional intelligence determines about 80% of a person's success in life. **Emotional development** is interrelated with both physical and intellectual development. Brain researchers tell us that emotions strongly influence our ability to pay attention and retain information (Wolfe, 2001). The implications of this for the way we approach teaching and learning are tremendous. Williams (1996) indicates that emotional and psychological concerns can impede academics unless teachers know how to work with these factors and develop an understanding of the context of a student's world. "The affective side of learning is the critical interplay between how we feel, act, and think. There is no separation of mind and emotions; emotions, thinking, and learning are all linked." (Jensen, 1998, p. 71)
>
> Indeed, the single best childhood predictor of adult adaptation is NOT IQ, NOT school grades, and NOT classroom behavior, but rather the adequacy with which the child gets along with other children. Children who are generally disliked, who are aggressive and disruptive, who are unable to sustain close relationships with other children, and who cannot establish a place for themselves in the peer culture are seriously "at risk". (Hartup, 1992)

What Differentiated Instruction Is Not	What Differentiated Instruction Is
Modifying grading systems: Modifications of grading systems may make it possible for struggling students to receive higher grades, but they are usually not designed to provide equitable access to learning objectives or grade-level standards.	**Variety of assessments**: Providing a variety of ways in which students may demonstrate their learning allows students to meet grade-level expectations based on their levels of academic readiness and interests. This differs from modifications to grading systems in that the criteria for student mastery of an objective does not change, but the vehicle by which students demonstrate mastery is differentiated.
More work for the "good" students or "extra activities" when students complete work: More work for students who have already mastered skills or concepts may provide additional practice but it does not extend the learning unless the work is at a different skill level or challenge. Providing "busy work" for students who finish assignments early only serves to keep them busy, not to further their learning.	**Extension activities:** Extension activities can provide opportunities for students to apply learning to a variety of scenarios and real-life experiences. Extension activities that advance student learning require students to transfer their learning to new situations.

Reference the following external resources for additional information:

- Article: "Emotional Development" by Teresa Odle, Gale Group
  http://www.education.com/reference/article/emotional-development
  Article explains the impact of children's emotional development on their experiences in school.
- Article: "Working with Shy or Withdrawn Children" by Jere Brophy
  http://www.ericdigests.org/1997-3/shy.html
  Article provides suggestions on working with shy or withdrawn students.
- Article: "Differentiated Instruction in the English Classroom Content, Process, Product and Assessment" by Barbara King-Shaver and Alyce Hunter
  http://www.heinemann.com/shared/onlineresources/E00577/chapter4.pdf.
  Article provides resources for getting to know one's students and suggestions for how to manage a differentiated classroom that can be helpful for teachers of all content areas. Specific suggestions are included for middle and high school English classes.

Reference the following internal resources for use in identifying student needs:

- Examples of Ways Teachers May Differentiate in the Classroom
  Document identifies ways the teacher may differentiate instruction.
- Determining Your Learning Preference
  Document can be used by students to determine their learning preference.
- Characteristics of Learning Styles Preferences
  Document provides characteristics of learning styles or preferences: auditory, visual, and kinesthetic, with suggestions for instructional strategies.
- Interest Inventory for Students
  Survey references twenty different areas of a student's life that can be used to support the student and teacher in identifying their interests.
- Multiple Intelligence Survey for Secondary Students
  Survey supports secondary students in identifying their preferred type of intelligence, based on the work of Howard Gardner.
- Multiple Intelligence Survey for Elementary Students
  Survey supports elementary students in identifying their preferred type of intelligence, based on the work of Howard Gardner.

Refer to Standard I, Element A and Element F and Standard III, Element A.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element C will be students who are able to embrace new ways of learning that are research-based in order to apply skills and knowledge they learn in the classroom.

Professional Practices: Students:

- **Embrace new and unique ways of learning as they are introduced through research-based lessons.**
- **Apply skills and knowledge learned in the classroom.**

Classroom Examples

Kindergarten reading: Students have been learning to identify characters, setting, and major events in a story. Assessment data show students have mastered identification of characters in stories they hear read and ones they read independently. Based on this information, the teacher develops a read-aloud lesson with the objective: Students will be able to describe the setting of a story using details. The teacher builds on student knowledge by explaining the setting is where the story takes place. It is where the characters are found. ***(Makes connections between student data and research-based practices.)*** The assessment task is for students to draw the setting based on details provided in the story. As students create their illustrations, the teacher circulates and confers with individuals on the details they included. During the conferences, she reminds students of the criteria (time of year, time of day, and three details found in the setting) for their work, which are displayed in kid-friendly language. With her support, students refer to the criteria and apply them to their illustration to identify any details that may be missing in their illustration. ***(Incorporates evidence-based strategies into lessons.)***

Students displaying an understanding of setting and the criteria required in their illustrations are given sentence strips and encouraged to write a description of the setting using details in their illustration. As the teacher confers with these students, she asks questions that require students to explain why the setting was important to the story. ***(Individualizes instructional approaches to meet unique needs of each student.)***

Students who do not have a grasp of the different seasons and/or characteristics of day and night receive additional support from the teacher through the use of examples. The teacher also adjusts instruction by reviewing the book to support students in identifying evidence from the book of the setting. ***(Individualizes instructional approaches to meet unique needs of each student.)***

Refer to Standard III, Element B for how this classroom example also aligns to this element.

2nd grade math: Students are learning how to solve addition word problems. Prior to the lesson, students have been taught various strategies for solving word problems, such as draw a picture, make a table, and decomposition of numbers based on place value. They are placed in groups based on their academic skills and assigned different word problems to solve. ***(Applies knowledge of current developmental science to address student needs.)*** Students with advanced math skills are given a word problem requiring two steps with two-digit numbers and regrouping, students on grade level are given a word problem requiring two steps with two-digits numbers but not regrouping, and students working below grade level are given a word problem with single-digit numbers. ***(Modifies content to assure that students are able to work at their ability levels.)*** The content of the word problems includes students' names and interests in order to provide relevancy. All groups are expected to work collaboratively and record the strategy they applied to solve the word problems and present their strategy to another group. ***(Builds on the interrelatedness of students' intellectual, social, and emotional development.)*** Students need to provide rationale for how the strategy utilized supported their ability to solve the problem. ***(Students seek materials and resources appropriate for their personal approach to learning. Seek to understand how they learn best.)***

Refer to Standard III, Element A for how this classroom example also aligns to this element.

Middle school science: During a lesson on the solar system, the teacher displays a poster of the planets, students act out the alignment of the planets, and the class reads an article on one of the planets. Within this lesson, materials are utilized that support visual, auditory, and kinesthetic learners' needs. ***(Incorporates evidence-based strategies into lessons.)***

Refer to Standard III, Element A for how this classroom example also aligns to this element.

High school history: Students are studying the causes of the Revolutionary War. The teacher provides direct instruction through the use of a PowerPoint presentation with illustrations of the time period and models how to complete a graphic organizer on the causes and effects of the war. Students are provided a variety of resources to use for completing the organizer, including differentiated texts based on students' reading levels. ***(Incorporates evidence-based strategies into lessons.)*** Students are provided the choice to complete the organizer with a partner or work independently based on their learning preference. Based on results from a pre-assessment, students with prior knowledge of the Revolutionary War are provided extension activities that enhance their understanding for how the causes of the Revolutionary War connect to the desire of people today to have a voice in their government. ***(Makes connections between student data and research-based practices. Students apply skills and knowledge learned in the classroom.)*** Before students are dismissed, the teacher brings the class together to review the learning objective and provide opportunities for students to share the information they recorded on their graphic organizers as well as the connections to current times.
Refer to Standard III, Element A for how this classroom example also aligns to this element.

Coaching/Self-Reflection Questions

- How will I determine the developmental and academic needs of each student?
- What resources will I utilize to identify research-based practices?
- How will I decide which research-based practices to implement in my instruction?
- How will I decide on the instructional approaches to use in order to individualize instruction for each student?

Element D

Teachers thoughtfully integrate and utilize appropriate available technology in their instruction to maximize student learning.

Technology at its best involves students and teachers in meaningful activities.

—R. Routman

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in the application of the practices referenced under Element D, teachers must first identify technology that is available and appropriate for instructional use based on content and student skills. This may include software, hardware, and processes that enable students to improve their access to a high-quality education through the use of Internet access devices, easy-to-use digital authoring tools, and the Web to access information and multimedia. A teacher's next steps are the creation of strategies and procedures to ensure students have equitable access to technology and that their use is effectively monitored. For technology to be used as a purposeful instructional resource, it must enhance student learning by developing students' knowledge and skills, both creative and innovative, and engaging and motivating students in learning experiences.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Uses available technology to facilitate classroom instruction.**

When technology resources are used to facilitate classroom instruction, they become tools that allow teachers to present information visually in a way that engages students and provides clarity to learning and behavior expectations.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Employs strategies and procedures to ensure that students have equitable access to available technology.**

To ensure all students have equitable access to technology, teachers need to establish clear routines and procedures for its use. Several factors should be considered when planning for student use of technology.

- Availability and accessibility of technology.
- Effectiveness of technology resources in supporting student learning.
- Students' technology skills.
- Level of student independence.
- Time required for task completion.
- Students' academic and language needs.
- Supports needed for students to use technology appropriately.

Reference the following internal resource for additional information:

- Strategies for Managing the Use of Computers in the Classroom

  Document provides strategies (or procedures) for the effective use of technology at all grade levels.

- **Monitors the use of available technology in the classroom.**

Technology can be an effective instructional tool. However, there can also be significant dangers associated with giving students Internet access, including downloading viruses and viewing inappropriate content. Teachers must

put procedures in place to monitor student usage and make sure each student is using resources appropriately and safely.

Suggestions for monitoring use of computers:

- Arrange classroom to ensure all computer monitors are easily visible by teacher and students.
- Remind students they have a responsibility to school values/rules when using technology. If a technology use covenant is not in place at the school level, teachers should consider creating one that students must sign in order to use available technology and then display for teacher and students to reference.

Reference the following external resource for additional information:

- Student Technology Use Contract
  http://vms.valhallaschools.org/ourpages/auto/2008/8/26/1219780980521/Technology%20Use%20Contract.pdf
  Example of a student contract.

Reference the following internal resource for additional information:

- Examples of **Netiquette**
  Document provides ways to properly communicate when using the Internet.

- The teacher, or a designated monitor, should check each computer's Internet browsing history once students are finished using the computers. Open up an Internet browser and hold down the "Control" key while pressing "H" to bring up a list of all the websites that have been visited that day.
- Communicate copyright guidelines to students. (Reference the Library of Congress' Guide on "*Copyright Basics*" for students and teachers: http://www.loc.gov/teachers/copyrightmystery/#)

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

Uses available technology to:

- **Enhance student learning.**

Students of today may be digitally savvy, but that doesn't necessarily mean they know how to effectively use technology for the purpose of learning. Technology can be a vehicle for increasing student engagement and learning but only if the technologies are used in combination with proficient instructional practices.

For students to interact with technology in a meaningful way, teachers and students should utilize technology for the purpose of enhancing student learning. There is no value in just having access to technology or using technology for the sake of "technology." What is important is the purposefulness with which it is used. Technology can be a valuable instructional tool to meet students' various learning styles and academic and language needs.

Reference the following internal resource for additional information:

- Examples for How to Use Technology to Enhance Instruction (connections to other professional practices)
  Document provides examples for how the use of technology connects to other elements referenced in Standard III.

- **Develop students' knowledge and skills.**

  The traditional definition of **literacy** is the ability to read and write. With the rapid development of new technologies, the nature of literacy is rapidly changing. Thus in addition to reading and writing, the current definition of literacy also includes the ability to learn, comprehend, and interact with technology in a meaningful way (Coiro, 2003).

Technology tools impact students' development of knowledge and skills in a variety of ways. Students have the opportunity to strengthen basic skills when technology is used as a tutorial, such as games that are used to

increase students' basic skills and fluency and provide feedback on accuracy of students' responses. Students can obtain knowledge when accessing the Internet for information. Technology has made students' access to an undefined number of resources much easier.
Communication skills and knowledge can be developed when students use technology to communicate with others, such as "content experts" or individuals living in a different culture and environment.

- **Enhance creative and innovative skills.**

Developing creativity is an ongoing process in which new ideas are formed based on older ideas or ideas from a different perspective. Technology can provide students with opportunities to experience other cultures, perspectives, and places different than their own in a way that is engaging and motivating.

For students to be successful in the 21st Century, teachers need to implement strategies that foster **creative skills** and **innovation skills.** The benefit of utilizing technology is not its potential to replicate the existing educational practice but its ability to combine ideas and product technologies in order to engage students in developing these skills.

- **Provide engaging and motivating learning experiences.**

Reference the following external resource for additional information:

- Article: "Using the Technology of Today, in the Classroom Today The Instructional Power of Digital Games, Social Networking, Simulations, and How Teachers Can Leverage Them" from Education Arcade http://education.mit.edu/papers/GamesSimsSocNets_EdArcade.pdf
  Article provides information on the use of games, social networking, and simulations in the classroom.

ACCOMPLISHED AND EXEMPLARY RATING LEVELS

The impact of a Proficient implementation of the professional practices referenced in Element D will be students who are able to appropriately use technology to produce creative and innovative products that accelerate their learning. Through this work, students will develop and apply team-building and networking skills, critical thinking skills, and the skills needed for effective communication and success in the 21st Century.

PROFESSIONAL PRACTICES: STUDENTS:

- **Engage in virtual or face-to-face learning activities enhanced by appropriate use of available technology.**
- **Produce creative and innovative products.**

Use available technology to:

- **Accelerate their learning.**
- **Apply team-building and networking skills.**
- **Deepen critical thinking skills.**
- **Communicate effectively.**

Classroom Examples

Kindergarten science: Kindergarteners are studying different types of animals. To help students understand the differences in animals that live on a farm, live in an ocean, and live in a zoo, the teacher takes students on virtual field trips of each location through the use of a projector and SMART board. ***(Uses available technology to facilitate classroom instruction. Uses available technology to enhance student learning and develop students' knowledge and skills.)*** As students go on the "field trip," the teacher has them identify animals that live in each location, which are recorded on classroom charts. At the conclusion of the "field trip," the teacher guides students to identify similarities and differences in how the animals live and rationale for why specific animals live in the three locations. Students work with partners to make predictions about the animals they will see when they visit a

local zoo. Using paint software, students create pictures of a zoo that includes their predictions. Prior to students creating their pictures, the teacher models how she would create a picture as an exemplar for students to reference. *(Employs strategies and procedures to ensure that students have equitable access to available technology. Uses available technology to provide engaging and motivating learning experiences. Enhance creative and innovative skills. Students produce creative and innovative products.)*

Middle school music: Students are studying World War I in their social studies class. To help students understand how music can represent the events and emotions of specific time periods, the music teacher uses an LCD projector and the Internet to play songs popular during WWI and show videos of soldiers dancing at USO parties. Students analyze the lyrics and videos for how music communicated the emotions of the soldiers and families at home and provided release from the stress of war. *(Uses available technology to facilitate classroom instruction. Uses available technology to enhance student learning and develop students' knowledge and skills.)* After completing individual analysis of WWI music, students are placed in groups of three. Working as a team, students select a current event (war, natural disaster, economic crisis, etc.) and use MIDI-compatible keyboards to write and record a song that represents their emotions and offers encouragement to others. Students post their songs to a secure site that families in the community can access. *(Provide engaging and motivating learning experiences. Students produce creative and innovative products, apply team building and networking skills, deepen critical thinking skills, and communicate effectively.)*

High school geography: Students in a geography class have been studying the issue of sustainability around the world. The class is designed around the ACOT2 (Apple Classrooms of Tomorrow Today) challenge-based learning framework. The teacher has presented information on this issue through the use of digital videos and interviews with farmers and government officials from countries around the world. *(Uses available technology to facilitate classroom instruction. Uses available technology to enhance student learning, develop students' knowledge and skills, and provide engaging and motivating learning experiences.)* Students choose to investigate the role of food in cultures and how it is related to sustainability. To investigate this essential question, students maintain a record of their eating habits using Excel spread sheets, mark the source of food on a map, and use the Internet to investigate the production of the food and the environmental and social impact it has on the country of production. They conduct virtual interviews with farmers and government officials introduced by their teacher to gain knowledge of programs currently in place and their impact on food development. Prior to students engaging in research on the Internet and virtual interviews, the teacher reviews procedures for using the Internet safely and effectively, including Netiquette expectations. *(Monitors the use of available technology in the classroom. Students engage in virtual or face-to-face learning activities enhanced by appropriate us of technology, accelerate their leaning, and communicate effectively.)* For their final project, they produce a short video presentation that recommends dietary changes for their peers and promotes sustainable food development. *(Students produce creative and innovative products.)* (*Eagle County Schools Professional Practices Rubric*, 2012, p. 47).

Reference the article, "Apple Classrooms of Tomorrow Today Learning in the 21st Century," http://education.apple.com/acot2/global/files/ACOT2_Background.pdf, for additional information.

Coaching/Self-Reflection Questions

- What technology is available for teacher and student use?
- How can the use of technology enhance student learning and engagement?
- How will I ensure all students have equitable access to technology?
- How will I monitor students' use of technology?
- How will I support students who may need assistance in using the technology available?
- How can I develop projects that require students to utilize technology in creative and innovative ways that will accelerate their learning?

Element E

Teachers establish and communicate high expectations for all students and plan instruction that helps students develop critical-thinking and problem solving skills.

Whether you think you can or think you can't — you are right.

—Henry Ford

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in application of the practices referenced under Element E, they must establish and communicate high expectations for all students that challenge students to learn to their greatest ability. Teachers must plan instruction that ensures students have opportunities to learn and apply critical-thinking and problem-solving skills which support them in meeting or exceeding performance expectations.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Has high expectations for all students.**

In 1968, Robert Rosenthal and Lenore Jacobson conducted research on the impact of teachers' expectations on student achievement, which became known as the Pygmalion effect. They concluded that teacher expectations can be self-fulfilling prophecies for their students. When teachers were told students had high achievement levels, the students made higher gains than students teachers viewed as lower achievers.

Since Rosenthal and Jacobson's research was conducted, studies have continued to show that a teacher's **high expectations** have a considerable impact on student motivation and achievement.

> Teachers who produce the greatest learning gains accept responsibility for teaching their students. They believe that students are capable of learning and that they (the teachers) can teach them (Encyclopedia of Educational Research, 1992).

Teachers with high expectations for their students continually communicate that it is not acceptable to not try, that I am supporting you, I believe in you, and I am not going to let you quit or get by with mediocre work.

Reference the following internal resource for additional information:

- How Teachers Communicate Expectations to Students
  Document identifies teacher behaviors that communicate high expectations to students.

- **Holds students accountable for their learning.**

Walk in any school, and teachers can be heard discussing their frustration with students who don't complete work or participate in class. However, before teachers can implement procedures for student accountability, they need to reflect on the cause of these student behaviors by asking the following questions:

- Has the content or skill been taught clearly so that students can be successful?
- Have possible misconceptions been addressed?
- Is sufficient time being provided for students to successfully complete the task?
- Are students clear on routines and procedures for getting help when needed?
- Are classroom resources available to support student independence with the task?
- How am I assessing students and providing feedback on progress and next steps?

When teachers have addressed the above questions and established a classroom culture in which all students feel respected and valued as learners *(reference Standard II, Element A)*, strategies can be implemented that hold students accountable for responding to teacher questions and engaging in the learning process.

Holding students accountable to engage in the learning process communicates the expectation that all students are capable of success, that everyone has something important to contribute, and that effort is valued as much as ability.

Reference the following internal resource for additional information:

- Accountability Strategies

  Document describes strategies that provide accountability for students to participate in class discussions and activities.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Sets student expectations at a level that challenges students.**

For work to be challenging for students, skills taught should be slightly in advance of a student's current level of mastery. Psychologists tell us that a student learns only when a task is slightly too hard. When a student can do work with little effort, and virtually independently, that student is not learning, but rather rehearsing the known. When a student finds a task beyond his or her reach, frustration—not learning—is the result. Only when a task is slightly beyond the student's comfort level, and the student finds a support system to bridge the gap, does learning occur. This theory is grounded in the work of Lev Vygotsky (1978) and the zone of proximal development (ZPD), the range at which learning takes place. The classroom research by Fisher, et al. (1980) strongly supports the ZPD concept. Researchers found that, in classrooms where individuals were performing at a level of about 80% accuracy, students learned more and felt better about themselves and the subject area (Tomlinson, 2000).

When teachers implement the Professional Practice, ***Incorporates critical thinking and problem-solving skills,*** they are increasing levels of expectations that challenge students.

Refer to Proficient Professional Practice, Challenges all students to learn to their greatest ability.

- **Incorporates critical thinking and problem-solving skills.**

Critical thinking differs from mere acquisition of knowledge or skills in that it involves the application of skills in order to evaluate, analyze, and/or synthesize information gathered from, or generated by, observation, experience, reflection, reasoning, or communication.

Reference YouTube video, http://www.youtube.com/watch?v=ZLyUHbexz04, for additional explanations of critical thinking.

Problem-solving skills involve the ability to critically analyze a problem, identify and organize relevant information, and then prepare a workable solution.

> "Some research suggests that problem solving is to the brain what aerobic exercise is to the body. It creates a virtual explosion of activity, causing synapses to form, neurotransmitters to activate, and blood flow to increase." (Jensen, 2008, p. 142)

Characteristics of a critical thinker:

- Asks questions that are clear, on topic, and enhance learning.
- Is open-minded and aware of different perspectives and alternatives.
- Evaluates credibility and relevancy of information.
- Interprets information and uses to develop well-reasoned conclusions and solutions.
- Is able to develop an evidence-based opinion and reasonably defend it.
- Communicates effectively with others in figuring out solutions to complex problems.

Ways to incorporate critical thinking and problem-solving skills in the classroom:

- Have students apply content they are learning to previous knowledge, real-world situations, and/or other disciplines.
- Focus on fundamental and powerful concepts with high generalizability as tools for learning and application.
- Provide opportunities for students to select learning strategies that best fit the skill required as well as their own learning preferences. ***(Reference Standard III, Element A.)***

Reference the following internal resources for additional information:

- Common Core State Standards and Critical Thinking
  Document explains the connections between the Common Core State Standards and critical thinking skills.
- Types of Problem-Solving Skills with Definitions and Examples
  Document provides definitions and examples of seven types of problem-solving skills examples of problem-solving tasks.

Reference the following external resource for additional information:

- Article: "The Challenge of Challenging Text by Timothy Shanahan" by Douglas Fisher and Nancy Frey http://www.ascd.org/publications/educational-leadership/mar12/vol69/num06/The-Challenge-of-Challenging-Text.aspx
  Article provides an explanation for what makes a text challenging with references to Common Core expectations.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Challenges all students to learn to their greatest ability.**

Challenging all students requires setting high expectations for all students. Teachers must communicate that excellence is expected from all students, not just students who are viewed as high achievers or "gifted." Teachers who communicate these expectations consistently:

- Plan instruction that addresses the academic needs and learning preferences of all students. ***(Refer to Standard III, Element A.)***
- Create a classroom environment in which students feel safe taking risks. ***(Refer to Standard III, Element B.)***
- Communicate that content is important and makes it meaningful for students – addresses the "why" for learning.
- Teach students that mistakes are part of the learning process and that effort is a key to success.
- Provide feedback on students' progress and next steps. ***(Refer to Standard III, Element H.)***

Refer to Partially Proficient Professional Practice, Sets student expectations at a level that challenges students.

- **Explicitly teaches higher-order thinking and problem-solving skills.**

In order to explicitly teach **higher-order thinking** and **problem-solving skills** to their students, teachers must show them what thinking sounds like by sharing their thinking aloud. Teachers can tell students the importance of being curious or of reflecting, or even explicitly teach lessons focusing on thinking skills, but unless they share their thinking with students and make their thinking visible in authentic ways across the day and over time, it's unlikely students will become cognitively engaged and be able to "think about their thinking." Teachers who put their thinking on display are teachers who are present. When they are present, they are tuned into their thinking and responsive to what is going on in the classroom and their own expectations for student learning. They make their thinking visible to show students how to think and how to learn.

Higher-order thinking skills require students to respond to questions and/or tasks that go beyond simple recall of information. For teachers to explicitly teach higher-order thinking skills, they must be implementing instruction and modeling their thinking in a manner that is sequenced across Bloom's Taxonomy of intellectual thinking and behavior important to learning in the 21st Century. ***(Refer to Standard II, Element C.)***

Impact on students from teaching higher-order thinking and problem-solving skills:

- Students can make connections to their world and to their learning.
- Students are led to think more deeply and independently.
- Students are led to take more ownership of their learning.
- Student motivation increases as they become more cognitively engaged in the learning process.
- Teachers are able to assess and provide feedback on students' learning and thinking.

It is important for teachers to recognize when students may need questions and tasks scaffolded based on Bloom's levels of thinking. Some students need to obtain the information and skills necessary to think across the levels of Bloom's Taxonomy. Many teachers make the mistake of beginning with evaluative or creative questions and tasks and then complain that their students can't meet expectations. This may be due to lack of scaffolding that supports students in building the knowledge and skills necessary to think at these levels.

Reference the following external resource for additional information and classroom ideas:

- Kathy Schrock's IPADS4Teaching H.O.T.S for Bloom's
  http://www.ipads4teaching.net/hots-for-blooms.html
  Website provides ideas for teaching higher-order thinking skills and incorporating technology in a manner that enhances student learning.

Reference the following internal resource for additional information and classroom ideas:

- Bloom's Taxonomy Question Types
  Document lists the levels of Bloom's Taxonomy with corresponding verbs for use in creating questions.
- What Does it Mean to Scaffold Questions and Tasks
  Document includes research on the importance of scaffolding questions and tasks. Examples aligned to social studies and reading learning objectives are provided.

Teachers who teach higher-order thinking skills also teach students how to generate questions that are clear, on topic, and enhance learning — a characteristic of a critical thinker. An indicator of a student's level of mastery is evident in the types of questions asked. Teachers who model how to ask higher-order questions stimulate student reflection and the need to know more.

Although students ask questions throughout the school day, research shows that the majority of questions are to seek clarification on procedural matters and not questions that further their learning. What teachers need to teach students to do is to generate questions that prompt their thinking, provide purpose for their learning, and support them in thinking about their own meta-cognitive processes.
Teachers of younger students may find it necessary to teach question words as a pre-requisite to students generating their own questions. The "I Wonder" strategy is a self-monitoring strategy to support students in understanding what they are thinking as they read and learn. It can be an effective tool to support younger students in stopping and thinking about questions they have while reading or learning new content.

Reference the following internal resource:

- Teaching Students to Ask Questions
  Document explains how teachers can engage students in asking questions.

Reference the following internal resources for classroom ideas for teaching younger students how to ask questions:

- Using Question Words with Younger Students
  Document provides definitions of question words for use with younger students that may also be used as visuals.
- I Wonder Worksheet
  Document can be used for students to record their questions.
- I Wonder Bookmark
  Document is a bookmark students may use to record their questions while reading.

- **Ensures that students perform at levels meeting or exceeding expectations.**

Communicating high expectations and incorporating critical-thinking and problem-solving skills are the first steps to ensuring that students perform at levels exceeding expectations. However, to ensure all students are meeting the challenges and high expectations that have been established, teachers must continually implement strategies that hold students accountable for their learning, as well as assessing students' progress towards learning outcomes.

Refer to Standard III, Element B and Element H and Basic Professional Practice, Holds students accountable for their learning.

Accomplished and Exemplary Rating Levels

The result of a Proficient implementation of the professional practices referenced in Element E will be students who take ownership of their learning by setting learning objectives and monitoring their progress towards these objectives and the teacher's expectations. Students who take ownership of their learning are cognitively engaged in the learning process as evidenced by their application of higher-order thinking skills and desire to seek opportunities to test their problem-solving skills.

Professional Practices: Students:

- **Help set their learning objectives.**
- **Apply higher-order thinking and problem-solving skills to address challenging issues.**
- **Monitor their progress toward achieving teacher's high expectations.**
- **Seek opportunities to test their problem-solving and higher-order skills.**

Classroom Examples

Early childhood: At the beginning of a unit on transportation, the teacher introduced materials that students could use to build an airport, a train station, and/or highways. The teacher also introduced how students could make a plan for what they would build. She modeled how she made a plan to build an airport. Her plan included pictures of different size blocks and toy airplanes she would use. (Explicitly teaches high-order thinking and problem-solving skills.) During center time, the teacher used questioning to ask students about their plans.

- "Tell about your plan."
- "What are you building?"
- "Why did you use these blocks?"
- "Why are you building the airport tower so high?"

(Holds students accountable for their learning. Students apply higher-order thinking and problem-solving skills to address challenging issues.)

Reference the article, "An Early Start on Thinking," by Ann S. Epstein
http://www.highscope.org/file/EducationalPrograms/EarlyChildhood/el200802_epstein.pdf
Article explains how to create an environment that encourages young children to think critically.

Elementary math: During a unit on geometry, the teacher invites architects and construction engineers to visit the classroom and explain how geometric shapes are used in the design and construction of buildings. Students will complete a project in which they apply their knowledge of shapes to various types of architecture and draw conclusions as to why the architect selected the geometric shapes utilized. Based on the conclusions drawn, they will design a building or bridge using geometric shapes and explain their design in writing, based on their knowledge of geometry. ***(Sets student expectations at a level that challenges students. Incorporates critical thinking and problem-solving skills.)*** Prior to students beginning the project, the teacher provides an exemplar of a project she completed. She shares her thinking that led to her conclusions and building design. As she does this, she connects to what she knows about geometry and information obtained from the guest speakers. ***(Explicitly teaches higher-order thinking and problem-solving skills.)***

Middle school science: During a study of photosynthesis and respiration in plants, a seventh- grade science teacher asks a series of questions that is scaffolded across various levels of Bloom's Taxonomy. The questions begin with basic recall of terms related to the parts of plants, their location in the plant cell, and their function and progresses to students comparing and contrasting the two processes and evaluating symbols that represent the processes. ***(Has high expectations for all students. Incorporates critical-thinking and problem-solving skills.)*** As questions become more challenging, the teacher requires students to write their responses prior to sharing them with a partner. As students write, wait time is provided for each student to process the question and develop a response. ***(Holds students accountable for their learning. Sets student expectations at a level that challenges students.)*** The lesson concludes with students creating their own symbols or illustrations for how photosynthesis and respiration in plants are connected. As students share their symbols with one another, their peers create questions to ask why they created the specific symbol and how it relates to the two processes. ***(Ensures that students perform at levels meeting or exceeding expectations.)***

High school social studies: Following a unit of study on the Civil Rights Movement, students write a biography on a significant figure of the Civil Rights Movement. Students are allowed to select the individual for their biography from a list provided by the teacher. Each student must provide a written rationale for his choice before beginning to research. ***(Holds students accountable for their learning.)*** The teacher provides specific information that must be included in the biography but allows students to generate questions for what they would like to learn about the individual. Both sets of questions are used to guide students' research. When students present to the class, students generate questions to ask each other about the subject of their biographies. The teacher makes resources available for students to locate answers to these questions.

Coaching/Self-Reflection Questions

- How will I establish and communicate high expectations for all students?
- How will I hold students accountable for their learning?
- How will I ensure the learning expectations challenge all students?
- How will I teach higher-order thinking and problem-solving skills to students?
- How will I provide opportunities for students to apply higher-order thinking and problem-solving skills?

Element F

Teachers provide students with opportunities to work in teams and develop leadership qualities.

When learning groups are established successfully, positive independence results in students' recognizing that their individual success is inextricably linked to the success of every other member of the group.
—Frey, Fisher, & Everlove

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in providing students with opportunities to work in teams and develop leadership qualities, students must be included in individual and group activities that are flexible and adjusted based on lesson objectives and student needs. To ensure group activities result in high levels of student engagement and increase student learning, lesson plans must include opportunities for students to participate using various roles and modes of communication that create opportunities for students to learn from each other.

Basic Rating Level

Professional Practices: The Teacher:

- **Includes all students in individual and group activities.**

Placing students in **learning groups** to complete group activities differs from placing students in groups for direct instruction. Direct instruction focuses on a set of skills or knowledge that a whole group, a small group, or individual student must acquire, which is when ability grouping is appropriate (i.e., guided reading groups). In learning groups where students are completing a group activity, students process not only content but learn beneficial social behaviors, such as cooperation and **collaboration**.

The purpose of grouping students is to increase student engagement and learning; therefore, operating rules must be established to ensure groups are effective. Prior to assigning group activities, teachers need to clearly communicate and model these rules for students, provide examples, and have students practice carrying out the rules.
Examples of rules for group activities:

- Stay with your group at all times.
- Respect others' opinions.
- Be flexible.
- Compromise.
- Encourage and praise your team members.
- Everyone contributes.
- Everyone is equal — no one gets all the credit.
- Do not use "put downs" or discouraging words. Use phrases, such as:
  - Could we look at it another way?
  - I'm not sure I understand.
  - I respect that idea but disagree because …

Partially Proficient Rating Level

Professional Practices: The Teacher:

Plans lessons that:

- **Provide opportunities for students to participate using various roles and modes of communication.**

To ensure the success of group activities, it is essential that both teacher and students are aware of individual and group expectations. The assigning of roles is an effective strategy for ensuring that expectations are clear. It is also a way for students to assume leadership and ownership for the group's success. In a collaborative group, every student has a specific task, and everyone must be involved in the learning or contribute to the project, so no one

can "piggyback." The success of the group depends on the successful work of each individual. When students have specific roles, it can also free up the teacher to support students and assess individual and group discussions and work.

Reference the following internal resource for additional information:

- Assigning Roles for Group Members

  Document describes examples of roles students may have when working on group projects or in group discussions.

  One attribute of using specific tasks is that they eliminate voluntary participation. In the traditional classroom, the teacher asks students a question, and only those who know the answer, or who are daring enough to respond, raise their hands. The rest of the class can opt out. When students have the option of nonparticipation, many don't participate. This is especially true for shy students, lower achievers, and early language learners. The result: They don't learn as much or as quickly. (Kagan & Kagan, 2009)

As teachers identify and define roles that group members will assume, they should choose roles that will help students effectively communicate and collaborate for the purpose of mastering the lesson goal. Teachers may want to consider the following questions when assigning roles and responsibilities.

- Who will begin the discussion or task?
- Who will ensure members stay on topic and adhere to the timeline?
- How will students provide feedback on group members' work or responses?
- How will all students be held accountable to participate?
- How will I stay updated on the group's progress?

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Flexibly groups students.**

Flexible grouping is based on learning goals and student needs. When teachers flexibly group students, they ensure students are given opportunities to learn in a variety of settings and from a mix of other students. When appropriate, students may have choices of which groups to join.

- **Adjusts team composition based on learning objectives and student needs.**

Teacher decisions about student grouping are based on a number of considerations. Chief among these is suitability to the instructional goals. The type of instructional group should reflect the learning outcomes of the lesson and meet the needs of all students (Danielson, 2007). Therefore, the ability of a teacher to effectively group students is directly connected to her knowledge of the students, their individual needs, interests, and abilities. ***(Reference Standard III, Element A)***

- **Varies group size, composition, and tasks to create opportunities for students to learn from each other.**

Students may be grouped in many different ways to enhance their level of engagement and learning.

- A single, large group, led by the teacher or another student
- Small groups, either independent or in an instructional setting with a teacher
- Homogeneous
- Heterogeneous
- Students can choose their own grouping — with partners, in triads, or in other configurations that they or a teacher establish.

Grouping has benefits for many aspects of teaching. One of those benefits is that it can enhance the processing of new information because interacting in groups provides students with multiple reference points. It allows each student to see how others process information, and it allows each student to see how others react to his or her processing of information. (Marzano, 2007)

Reference the following internal resource for additional information:

- Strategies for Forming Groups

  Document provides of examples of different grouping structures.

Misconceptions about grouping students:

- *My students sit in groups so they can work together whenever they need support.* Although classroom arrangement can **s**upport group activities, placing desks in groups or seating students at tables does not guarantee students will work cooperatively or collaboratively. Without clear procedures and clarity of purpose, classroom arrangement can result in off-task behavior and students "piggy backing" off their stronger or more motivated peers.
- *When I notice student engagement decreasing, I use a Turn and Talk response method.* A Turn and Talk can be an effective way to engage all students in responding to questions and learning from each other. However, for it to enhance student learning, teachers must provide clarity on what students are expected to talk about and how to listen and respond to each other. It is also helpful for teachers to designate which partner talks first.
- *I would like to use group activities, but my students do not work well in groups.* Working cooperatively and collaboratively with others are life skills that students need to be taught. Teachers can do this by communicating clear expectations for how students should display respect for group member's opinions and ideas. When teachers assign roles and responsibilities and teach accountable talk, students can develop the skills needed for working effectively with others. Teachers may also need to scaffold group activities from partners to large groups of four or more to allow students opportunities to build trust in their peers and feel confident in sharing their thinking with others.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element F will be students who are able to assume leadership roles by fulfilling assigned roles and participating in teams in ways that build trust and ownership of ideas among team members. Interactions among team members will be positive and supportive of all members in reaching mastery of learning outcomes.

Professional Practices: Students:

- **Fulfill their assigned roles within the team.**
- **Assume leadership roles in their teams.**
- **Utilize group processes to build trust and promote effective interactions among team members.**
- **Participate in teams in ways that build trust and ownership of ideas among team members.**

An essential component of cooperative learning is group processing. Group processing exists when group members discuss how well they are achieving their goals and maintaining effective working relationships. Groups need to describe what member actions are helpful and unhelpful and make decisions about what behaviors to continue or change. Continuous improvement of the process of learning results from the careful analysis of how members are working together.

Classroom Examples

Early childhood centers: The teacher implemented group learning using centers in her classroom but often complained about the noise and off-task behavior. An observer noted that students moved from one center to another when the bell rang, but expectations for what the students were to accomplish at the centers was unclear. At once, the teacher realized how important it was to have clear expectations and accountability for what students did in groups independently. ***(Includes all students in individual and group activities. Provide opportunities for students to participate using various roles and modes of communication.)*** By answering the questions below, she was able to construct reasonable outcomes for each center. A visual with text and graphics was displayed at each center for students and the teacher to reference. This chart provided steps for how to use materials appropriately and vocabulary related to the center's outcome. Clear expectations allowed students to meet learning objectives and interact cooperatively with one another. ***(Varies group size, composition, and tasks to create opportunities for students to learn from each other.)***

Guiding Questions:

- What learning outcome do I expect students to accomplish at each center?
- How will students work individually and with peers at each center?
- How will students work with the materials at each center?
- How will I communicate expectations to students?

Middle school music. Students are learning about jazz music and musicians associated with Harlem. They learn how music unified the community and impacted the culture of Harlem. Working in collaborative groups of four, students create a group dance or interpretative movement of a specific song. ***(Includes all students in individual and group activities.)*** Each student fulfills a specific role (Manager, Researcher, Chorographer, and Recorder) within the group to ensure the task is completed. ***(Provide opportunities for students to participate using various roles and modes of communication. Students fulfill their assigned roles with the team.)***

High school social studies: Students are learning how the events of September 11, 2001, impacted governmental decisions. The teacher facilities a discussion on the roles and responsibilities of the Department of Homeland Security, which was created immediately after the September 11 attacks and is charged with the protection of US citizens within our borders.

Students are told that Homeland Security recommends all citizens prepare an emergency response plan. Working in collaborative groups of four, students explore the elements needed to create an effective plan as outlined on the Homeland Security website. Students are provided a list of individuals they may contact for additional information, i.e., local and federal Homeland Security employees, policemen, etc. ***(Includes all students in individual and group activities.)*** They identify a potential problem within their community or school that would require an emergency response and establish an appropriate plan for the problem. ***(Varies group size, composition, and tasks to create opportunities for students to learn from each other.)***

Upon completion, students present their plans to the appropriate community or school leadership in charge of adopting emergency response plans. Each group member is responsible for presenting a specific aspect of the plan to the class. ***(Provide opportunities for students to participate using various roles and modes of communication.)*** Students use a rubric to evaluate each group's plan and provide feedback to peers. ***(Varies group size, composition, and tasks to create opportunities for students to learn from each other.)***

Coaching/Self-Reflection Questions

- How will all students be included in individual and group activities?
- How will I decide on the instructional grouping of students during a lesson?
- How will I communicate to students their individual and group responsibilities?
- How will I hold individual students and groups accountable?
- How will I assess the learning of groups and individuals?

Element G

Teachers communicate effectively, making learning objectives clear and providing appropriate models of language.

Talk can cure, and talk can foster constructive change. But it must be the right kind of talk.
—Thomas Gordon, Teacher Effectiveness Training

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in communicating clear learning objectives, they should provide a model of effective communication and provide opportunities for students to communicate with one another about their learning.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Communicates effectively with students.**

Teaching is more than imparting knowledge to students. For students to learn and understand the content being taught, teachers must be able to communicate effectively with each student.

Communicating effectively with students helps to ensure learning and behavior expectations *(refer to Standard II, Element F)* are clearly understood by students. Communication is the interchange of information. Therefore, the term **"communicates"** implies that students know and understand a teacher's expectations.

Effective communication involves the skills of speaking and listening as well as nonverbal and interpersonal skills.

Reference the following internal resource for additional information:

- Communicating Effectively with Students

  Document provides strategies for effectively communicating learning objectives to students.

When students' responses or questions lack clarity or are emotionally charged, the manner in which a teacher responds can support or inhibit communication. Teachers can display respect for students' ideas and promote further communication by summarizing or paraphrasing their comments.

- Summarizing

  Summarizing requires teachers to listen and respond for accuracy and emphasis. Summarizing information can ensure that all students are clear on what has been discussed.

Examples of starter phrases that can lead to summarizing statements:

- "There seem to be some key ideas expressed here…"
- "If I understand you, you feel this way about [describe]…"
- "I think we agree on this. What we are saying is that we intend to…"
- "In talking about this issue, we have come up with three main points…"

- Paraphrasing

  Paraphrasing is restating what someone said in an objective manner even when emotions may be interfering. This form of communication can be applied when there is a need to sort out fact from emotion or excitement.

Examples of starter phrases that can lead to paraphrasing statements:

- "You are saying…"
- "In other words…"
- "I gather that…"

- "If I understand what you are saying…"
- "You're suggesting…"
- "So, you…"
- "So there are a couple of things going on…"
- "You're thinking…"
- "You're wondering…"
- "You're feeling…"

Communicating Learning Objectives

According to Marzano (2007), "Arguably, the most basic issue a teacher can consider is what she will do to establish and communicate learning goals, track student progress, and celebrate success."

Implementing effective lessons, aligned to state content standards, is dependent upon a teacher's ability to create and communicate clearly defined learning objectives appropriate for students and the content being taught. If a teacher is not clear about what she wants students to know and be able to do as a result of the lesson, it is difficult for the lesson to be properly developed or implemented. Both the students and the teacher must understand what is to be accomplished during each lesson and the goal for student learning. ***(Refer to Standard I, Element A.)***

Communicating learning objectives effectively goes beyond posting and/or stating an objective at the beginning of a lesson. It requires the teacher and students to continually reference the objective and ensure that each element of a lesson aligns to and supports the lesson goal.

Reference the following external resources for additional information:

- Article: "Objectives That Students Understand" by Robert Marzano
  http://tcrpalliance.files.wordpress.com/2011/07/objectives_objectives-that-students-understand.pdf.
  Article explains how teachers can effectively write learning objectives that are clear to students.
- Article: "What Drives Instruction" by Mark Prosise
  http://www.ascd.org/ascd-express/vol7/702-prosise.aspx
  Article describes ways teachers can use essential questions to communicate learning objectives and engage students.
- Technique: "Post It" from Teach Like a Champion: 49 Techniques that Put Students on the Path to College by Doug Lemov, pages 63-64
  Techniques explain rationale for teachers visually displaying learning objectives.

Reference the following internal resource for additional information:

- Communicating Learning Objectives
  Document provides strategies for effectively communicating learning objectives to students.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Models effective communication skills.**

When teachers are able to communicate effectively with all students, they are able to provide a model for how students should communicate with one another and with others outside of the classroom. For students to view a teacher's communication as something they can replicate, teachers need to explicitly label the communication skills they are utilizing with the rationale for how these skills improve their ability to communicate with others. It is this explicit labeling of the skills utilized that provides evidence of a model and moves a teacher's practice from the Basic Professional Practice, ***Communicates effectively with students*** *to* ***Models effective communication skills.***

- **Encourages students to communicate effectively.**

When teachers create a classroom environment that features mutual respect and values students' diverse perspectives, students will feel encouraged and safe to communicate their ideas and share their questions.

Teachers can encourage students to communicate with peers through effective grouping arrangements, having students respond to their peers' answers and questions, and by setting the expectation that students should support their ideas with evidence-based rationale.

Refer to Standard II, Element A and Standard III, Element F.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Teaches students to be effective communicators.**

As teachers plan for how they will teach students to communicate effectively, they should refer to the Speaking and Listening standards referenced in the Colorado Academic Standards for Reading, Writing, and Communicating.

Students in the 21st century are seldom out of touch with their peers. They spend hours on their cell phones, texting or emailing each other. Even though they communicate frequently with one another informally, many lack the skills needed for formal or academic communication. The development of written, oral, and interpersonal communication skills necessary to succeed in college and career is dependent on teachers implementing strategies and activities that explicitly teach these skills and provide opportunities for student application. *(Refer to Basic Professional Practice, Communicates effectively with students and Partially Proficient Professional Practice, Models effective communication skills.)*

Tips for teaching communication skills:

- Set the expectation that students orally respond to questions using complete sentences.
- Provide sentence starters for students to use when communicating and collaborating with peers. This is referred to as Accountable Talk, which is a way teachers can encourage and teach students to communicate their thinking and listen with purpose.
- Model for students how to identify and analyze the audience with whom they will be communicating. Have students think about the audience's expectations and interests when writing and developing presentations.

Reference the following external resources for additional information:

- Article: "Teaching Basic Communication Skills" by Edward Wilczynski http://www.seenmagazine.us/articles/article-detail/articleid/209/teaching-basic-communication-skills.aspx.
  Article explains the rationale for teaching communication skills and describes ways teachers may do this.
- Video: Why is it important for English learners to talk every day and how can teachers engage these students in academic conversations? with Rosita Apodaca http://ifl.lrdc.pitt.edu/index.php/resources/ask_the_educator/rosita_apodaca
  Video discusses why English learners must go beyond fluency in everyday English and how teachers can help students become fluent listeners and speakers of academic English.
- Article, "Content-Area Conversations" by Douglas Fisher, Nancy Frey and Carol Rothenberg http://www.ascd.org/publications/books/108035/chapters/Procedures-for-Classroom-Talk.aspx.
  Article describes ways teachers can support ELL students' communication skills and strategies for implementing group activities in the classroom.

Reference the following internal resource for additional information:

- Sentence Starters for Teaching Students Accountable Talk

  Document provides examples of sentence starters that can be used to support the development of students' communication skills.

  - **Provides opportunities for students to practice communication skills.**

Once teachers have developed the skills to communicate effectively with students and planned and implemented strategies for modeling and teaching these skills, teachers must purposefully plan opportunities for students to practice these skills.

Students can practice communication skills in a variety of ways. For example, students may engage in activities such as role-playing, storytelling, or interviewing. ***(Refer to Standard III, Elements D and F.)***

Common Misconceptions	
Misconceptions	Explanations
I ask a lot of questions, which gives my students opportunities to communicate.	Questioning is a teacher action. For students to practice communication skills, they need opportunities to respond to peers' answers and ask questions of each other and the teacher.
My students already talk a lot.	Students enter our classrooms knowing how to "chit chat." However, what they lack are the skills and language necessary for academic discourse. In her book, *Comprehension Through Conversation*, Maria Nichols points out that the "heightened level of engagement" and "flexible thinking" necessary for academic discourse must be explicitly taught and practiced.
My students are motived to debate and engage in lively discussions with each other.	Debate can be a form of academic discourse. However, when students "dig in their heels" with the goal being to win, communication can become more argumentative than evidence-based. Students need opportunities to evaluate a variety of perspectives and work collaboratively to develop evidence-based arguments.
My students enjoy sharing about the books they are reading. We have "book talks" on a weekly basis.	When student communication is limited to sharing their opinions about a text, then the impact on deepening student learning is limited. The purpose for student communication about their reading should be to deepen and challenge students' thinking. Students should have opportunities to answer and ask questions about what they read based on evidence from a text.

Reference the following external resource for additional information:

- Article: "Comprehension Through Conversation the Power of Purposeful Talk in the Reading Workshop" by Maria Nichols
  http://www.heinemann.com/shared/onlineresources/E00793/chapter5.pdf

  Article describes how teachers can engage students in purposeful talk during a read aloud.

Accomplished and Exemplary Rating Levels

The result of a Proficient implementation of the professional practices referenced in Element G will be students who are able to apply effective written and oral communication skills and use academic language in spoken and written work.

Professional Practices: Students:

- **Apply effective written and oral communication skills in their work.**
- **Use academic language in spoken and written work.**

  Academic language is the language used in textbooks and assessments. It is the language or vocabulary associated with concepts, skills, and content taught in classrooms. It is also the language of formal communication. For students to be able to comprehend the teacher's instruction, discuss what is being learned, communicate their ideas, read for different purposes, and write about their learning, they need to understand and be able to use academic language (Scarcella, 2003).

  Research shows that students' knowledge and use of academic language is directly related to their attainment of content knowledge and comprehension. Therefore, it is critical for students to possess a deep understanding of academic language in order to understand the concepts they are expected to master as outlined in the content standards. (Stahl & Fairbanks, 1986)

Examples of academic language:

- Mathematics: equation, fraction, exponent, and monomial. Often mathematical terms have multiple meanings leading to confusion (i.e., square, coordinate, degree)
- Language arts: text, main idea, inference, prediction, and comprehend
- Assessments: define, explain, describe, justify, and determine

Tips for promoting students' use of academic language:

- Identify the structure and genre of the text that will be utilized and the vocabulary needed to comprehend the text. (e.g., a lab report for chemistry requires different academic structure and language than a newspaper article for social studies or a novel for language arts).
- Provide explicit instruction and analysis of the text to support students' comprehension of the text (e.g., teaching students how to deconstruct a word problem in algebra requires different academic language than deconstructing a poem in language arts or a proof in geometry).
- Provide scaffolded instruction on the use of academic language, both orally and visually (e.g., display vocabulary that students will need to understand and utilize; provide graphics to support vocabulary meaning; incorporate academic language during direct instruction; provide sentence stems that include the academic language of the concept or skill being taught).

Classroom Examples

Second grade science: Students in a second-grade classroom are working with partners to create landforms from clay or through illustrations. Prior to students working collaboratively, the teacher models how he illustrated a landform based on its attributes. In his model, he uses the sentence stem, "The landform I illustrated is a _____ because a _____ is _____." For example, "The landform I illustrated is a peninsula because a peninsula is surrounded by water on three sides. His explanation includes the academic language associated with a peninsula, as well as the language needed to explain his illustration. ***(Communicates effectively with students. Models effective communication skills. Teaches students to be effective communicators.)*** Students are provided sentence stems to communicate with one another about the landform they create. As he circulates during students' group work, he continually questions students about their creation or illustration and uses prompts to support them in using the academic language modeled. ***(Encourages students to communicate effectively. Provides opportunities for students to practice communication skills.)***

Middle school physical education: A physical education teacher is teaching a unit on basketball. As he models skills needed to play the game, he labels each skill, using the academic language associated with basketball (e.g., dribble, pass, guard, foul shot, defense, offense, and block). In this way, students learn not only how to play the game, but the terminology needed to label what they are doing. ***(Communicates effectively with students. Models effective communication skills. Teaches students to be effective communicators.)*** As students observe their peers playing a game, they use the language modeled by the teacher to provide feedback to their classmates. When students use everyday language instead of language associated with basketball such as bounce instead of dribble, the teacher prompts them to use the correct terms. ***(Encourages students to communicate effectively. Students use academic language in spoken and written work.)***

High school writing: A teacher tells students they will be learning how to write persuasive pieces. He defines the term "persuasive" and asks students how this term applies to a type of writing. Student' tasks are to complete a job application and write a cover letter to a potential employer. Students are asked to explain how the task connects to the learning objective. Prior to students beginning their task, the teacher models his resume and cover letter. During the model, the teacher explicitly labels how he decided on the information to include based on his audience and purpose for writing. ***(Models effective communication skills. Teaches students to be effective communicators. Provides opportunities for students to practice communication skills. Students apply effective written and oral communication skills in their work.)***

Coaching/Self-Reflection Questions

- How will I ensure that I am communicating effectively with all students?
- How will I communicate the learning objective to students?
- How will I plan for strategies that model and teach effective communication skills?
- What opportunities will I provide for students to communicate orally and/or in writing with others?
- What will be the academic language I will include in my model and instruction?
- How will I ensure students are able to utilize the academic language associated with the content and skill being taught?

Element H

Teachers use appropriate methods to assess what each student has learned, including formal and informal assessments, and use results to plan further instruction.

Assessment always has more to do with helping students grow than with cataloging their mistakes.
—Carol Ann Tomlinson

Professional practices referenced under each element of the Rubric for Evaluating Colorado Teachers are designed to be cumulative. Therefore, for teachers to be Proficient in assessing student learning, they must administer a variety of assessments aligned to the learning outcomes. A Proficient teacher utilizes the results to document student progress and provide feedback to students and their families. Students have opportunities to monitor their learning and apply feedback in order to improve their work.

BASIC RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

- **Involves students in monitoring their learning.**

  …the greatest effects on student learning occur when teachers become learners of their own teaching and when students become their own teachers. When student's become their own teachers, they exhibit the self-regulatory attributes that seem most desirable for learners (self-monitoring, self-evaluation, self-assessment, self-teaching.) Thus, it is visible teaching and learning by teachers and students that makes the difference. (Hattie, 2012, p. 18)

For students to **self-monitor**, they must understand expectations for their learning and have access to the criteria and standards for the task they need to master; they must receive feedback in their attempts to master the task that identifies what they are doing correctly and what they need to do next; and, they must have opportunities to apply the feedback.

When students are involved in monitoring their own learning, they seek and accept feedback on their progress. They are able to identify their learning preferences and apply these to their learning. ***(Refer to Standard III, Element A.)***

Reference the following external resource for additional information:

- Teaching Students to Self-Monitor Their Academic & Behavioral Performance from Old Dominion University
  http://education.odu.edu/esse/docs/selfmonitoring.pdf
  Document provides additional research that explains self-monitoring and its impact on student learning, behavior, and engagement.

- **Assesses learning outcomes appropriately.**

Before teachers can assess learning outcomes appropriately, they must have explicit student outcomes in mind for each lesson. ***(Refer to Standard III, Element B.)***

When planning for how learning outcomes will be assessed, teachers must be able to articulate to themselves and to the students what mastery of the outcomes will look like and sound like. The following questions can support them in this process.

- What do I need to hear students say?
- What do I need to see students do?
- What vocabulary do I need to hear and see students use?

When developing assessments, teachers should consider the following:

- Age and needs of students
- Alignment to Colorado Academic Standards
- Time required to complete assessment
- Assessment method that best provides information on student learning: oral, written, multiple choice, graphic representation, project, etc.
- Format of high-stakes tests: District benchmark assessments, TCAP, PARCC, etc.
- Criteria for assessment

Developing appropriate criteria:

Clear and appropriate criteria specify what we should look at to determine the degree of understanding and serve us in making a judgment-based process consistent and fair.

Appropriate criteria highlight the most revealing and important aspects of the work (given the goals), not just those parts of the work that are merely easy to see or score. (Wiggins & McTighe, 2006, p. 172)

Guiding questions for developing criteria:

- Are the criteria measurable? Can student work or responses provide evidence for the criteria?
- Do the criteria measure procedural and conceptual understanding of the skill or content?
- Are the criteria free from culture bias?
- Are the criteria understandable to students?
- Do the criteria allow me to provide specific feedback to students on their progress?

Reference the following external resources for additional information:

- Website: PARCC, for information on PARCC assessments
  http://www.parcconline.org/
- Document: Passage Selection Guidelines for Assessing CCSS (Common Core State Standards) ELA
  http://www.parcconline.org/sites/parcc/files/Combined%20Passage%20Selection%20Guidelines%20and%20Worksheets_0.pdf

  Document provides guidelines for the selection of texts to teach and assess Common Core Literacy standards.

PARTIALLY PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

☐ **Implements appropriate strategies for assigning grades.**

When assigning and calculating grades, teachers should refer to and adhere to district guidelines.

☐ **Evaluates student performance based on multiple measures.**

If teachers are to use assessment data to inform instruction and support student growth, student performance must be measured using multiple tools. When summative assessments, or tests, are the only measurement utilized, neither teachers not students have opportunities to make adjustments during the learning process that can increase student success.

Examples of multiple measures:

- Exit tickets
- Observations
- Interviews
- Homework
- Classwork
- Projects
- Essays or reports

☐ **Includes documentation of student progress toward mastery of state content standards in assessment plans.**

The purpose of assessment is to guide a teacher's instruction and support students in improving their work, monitoring their learning, and making progress towards learning outcomes. Therefore, the components of an effective **assessment plan** include:

- Clearly articulated student learning outcomes aligned to Colorado Academic Standards.
- Criteria and timeline for assessment collection linked to each outcome or unit goal.
- Evidence of student progress towards learning outcomes or unit goals at each point on the assessment timeline.
- Instructional implications for individual students and groups of students based on assessment data.

PROFICIENT RATING LEVEL

PROFESSIONAL PRACTICES: THE TEACHER:

○ **Uses a variety of assessment methods.**

Assessing in varied ways is meant to allow students to show what they learned based on their learning preferences, interests, and strengths.

> When teachers vary the product or performance they are using to assess a given learning objective, they are affording students various ways of demonstrating what they have learned from the lesson or unit. (Algozzine & Anderson, 2007; Nunley, 2006)
>
> Regardless of what the task for the student might be, the learning assessment should focus on essential knowledge, understanding, and skills specific as content goals. It should also call on students to use what they learned. Tasks assigned should have clear, challenging, and specific criteria for success, based both on grade-level expectations and individual student needs. They should endeavor to capture student interest. Finally, high-quality assignments are written and guided in ways that support student success with the process of working on the product. The teacher devises the guidelines and rubrics, sharing with the students at the beginning, evaluating and providing feedback at intervals along the way, and allowing students to process their success as they complete the tasks at hand. This philosophy makes the classroom sensitive to the learner, as well as making the learning environment enjoyable. (Tomlinson, 2005)

Teachers may vary assessments based on the following:

- Student academic needs
- Student interest and talents
- Student choice

Examples of Assessment Methods	
Design a game	Design a web page
Write a book	Write a book
Present a mime	Create a public service announcement
Generate and circulate a petition	Write a biography
Plan and present a puppet show	Generate and circulate a petition
Write a musical	Write a book for a younger audience
Make a plan	Choreograph a dance
Write a newspaper article	Create a series of illustrations

(Tomlinson, 2001, p. 89)

Reference the following internal resource for additional information:

- Examples of Assessment Methods Based on Students' Learning Preferences

  Document provides examples of assessments that align to different learning preferences.

Provides actionable, timely, specific, and individualized feedback about the quality of student work to:

- **Students.**
- **Families and significant adults.**
- **Other professionals who work with students.**

In the research referenced, actionable feedback is referred to as academic feedback.

Students

Academic feedback is an incredibly powerful teaching tool. Students who are given specific information about the accuracy and quality of their work will spend more time working on their academic assignments. Academic feedback is not about praise, blame, or disapproval; feedback is value-neutral. Good feedback describes what a student did or did not do for the purpose of changing or maintaining performance. Effective academic feedback should provide students with an explanation of what they are doing correctly and what steps they must take to continue to make progress. When teachers provide constructive feedback, students begin to develop the skills of self-assessment and self-adjustment. (Rutherford, 2009, p.25)

It is essential that teachers provide feedback equitably and that all students receive feedback on their work. It is not equitable, for example, for a few star pupils to receive detailed and constructive suggestions on their papers, while others receive negative feedback only, or the teacher gives little attention to other students' work (Brookhart, 2008).

Challenges to providing actionable feedback:

- Ability to identify the primary learning objective for the lesson.
- Ability to identify the manner in which students will demonstrate mastery.
- Ability to actively listen and respond to students' comments and questions.
- Ability to understand academic feedback and differentiate it from statements that are merely motivational.

Reference the following external resources for additional information:

- Article: "Seven Keys to Effective Feedback" by Grant Wiggins
  http://www.ascd.org/publications/educational-leadership/sept12/vol70/num01/Seven-Keys-to-Effective-Feedback.aspx.
  Article describes criteria for effective feedback with examples and non-examples of effective feedback.
- Article: "Process Design: Feedback Spirals As Components of Continued Learning" by Arthur L. Costa and Bena Kallick
  http://www.ascd.org/publications/books/195188/chapters/Process-Design@-Feedback-Spirals-As-Components-of-Continued-Learning.aspx.
  Article explains feedback and assessment spirals and how to use this strategy for student learning.
- Article: "Feedback that Fits" by Susan Brookhart
  http://www.ascd.org/publications/educational-leadership/dec07/vol65/num04/Feedback-That-Fits.aspx
  Article describes effective feedback along with examples.

Reference the following internal resource for additional information:

- Examples and Non-examples of Quality Feedback to Students
  Document explains why examples represent high-quality feedback or ineffective feedback.

For a synthesis of extant research on academic feedback please refer to *How to Give Effective Feedback to your Students* by Susan M. Brookhart (2008).

> Marzano (2007) synthesized nine major studies examining the effect of feedback on the academic performance of students. All studies reported positive effects on the order of between 10 and 43 percent gains on student achievement. Furthermore, formative assessments provide a natural avenue through which teachers can provide students with timely and relevant feedback. Other reports synthesized by Marzano (2007) suggest that the use of two formative assessments per week may result in percentile gains of up to 30 points. (*Eagle County Schools Professional Practices Rubric*, 2012, p. 44)

Families and Significant Adults

The school-family connection is critical for student success, which makes providing feedback to parents so important. When parents have an understanding of what their child is learning and how they are progressing towards academic goals, they feel connected. They are motivated to be involved and contribute to their child's success.

A teacher who provides actionable feedback to families gives clear suggestions for how families can support their child's success. Feedback to parents can be provided in a variety of ways, during parent-teacher conferences, phone calls, emails, and/or written notes.

Elements of effective feedback to families:

- Provides specific data on a student's academic work.
- Explains what a student is doing that is helping him make progress towards academic goals.
- Identifies next steps by explaining what the student is doing successfully as well as areas for growth.
- Provides clear actionable ways the parent can support at home. This may include resources such as websites, flash cards, practice worksheets, etc.

Reference the following internal resource for additional information:

- Examples and Non-examples of Quality Feedback to Parents
  Document provides explanations for why feedback examples are of high quality for families.

Refer to Standard II, Element E.

Other Professionals Who Work With Students

Within the school community, there may be a variety of adults that work with students to support their emotional, social, and academic growth. Therefore, it is important that information related to the service each adult provides is communicated on a timely basis so support can be systematic and specific to each student's needs. These professionals may include:

Student Support Services	Teachers
School physical and occupational therapists	Special education teachers
School speech language pathologists	Gifted and talented teachers
School orientation and mobility specialists	Second language teachers
School psychologists	Specialists, such as music, art, band, chorus, and physical education teachers
School audiologists	Interventionists
School nurses	Instructional coaches
School social workers	Content area specialists
School guidance counselors	

- **Teaches students to use feedback to improve their learning.**

For students to use feedback, an environment that values growth and improvement must exist within the classroom.

> Students must view constructive criticism as a good thing and understand that learning cannot occur without practice. If part of the classroom environment culture is to always "get things right," then if something needs improvement, it's "wrong." If, instead, the classroom culture values finding and using suggestions for improvement, students will be able to use feedback, plan and execute steps for improvement, and, in the long run, reach further than they could if they were stuck with assignments on which they could already get an A without any new learning. It is not fair to students to present them with feedback and no opportunities to us it. (Brookhart, 2008, p. 2)

Teachers must also model how they apply feedback. As teachers share their work with students, they can solicit student feedback or share feedback provided by peers along with the decisions they made for how the feedback was applied.

Reference the following internal resource for additional information:

- Strategies to Help Students Learn to Use Feedback
  Document provides strategies that can help students learn how to use feedback.

Accomplished and Exemplary Rating Levels

The impact of a Proficient implementation of the professional practices referenced in Element H will be students who self-assess, articulate their personal strengths and needs based on self-assessment, and use formal and informal feedback to monitor their learning; they also assume ownership for monitoring their progress, setting learning goals, and applying teacher feedback to improve.

Professional Practices: Students:

- **Self-assess on a variety of skills and concepts.**
- **Articulate their personal strengths and needs based on self-assessment.** ***(Refer to Standard III, Element B.)***
- **Effectively use formal and informal feedback to monitor their learning.**

Assume ownership for: *(Refer to Standard III, Element E.)*

- **Monitoring their progress.**
- **Setting learning goals.**
- **Applying teacher feedback to improve performance and accelerate their learning.**

Reference the following external resource for additional information:

- Article, "Student Self-Assessment: The Key to Stronger Student Motivation and Higher Achievement" by James H. McMillan and Jessica Hearn
  http://files.eric.ed.gov/fulltext/EJ815370.pdf
  Article explains self-assessment for students.

Classroom Examples

Elementary writing: The learning objective is: Students will be able to write a strong paragraph with a topic sentence, at least three supporting sentences, and a summary statement. Each lesson begins with a model in which the teacher shares her writing and has students provide feedback based on the lesson objective and writing rubric. *(Assesses learning outcomes appropriately.)* The teacher shares her thinking regarding each suggestion and how she decides to apply feedback received. Students are asked to explain how the revisions made strengthened the teacher's writing. *(Teaches students to use feedback to improve their learning.)*

As students add supporting sentences to their writing, they use the writing rubric as a reference to guide their work. *(Involves students in monitoring their learning.)* The teacher circulates and provides the following feedback: *(Provides actionable, timely, specific, and individualized feedback about the quality of student work to: Students.)*

- Marie, very nice sentences because they include strong details.
- Henry, your first detail is a complete sentence. That's great. Look at your second detail. What can we add to make it a more complete sentence?
- Louise, if you would like more inspiration, let's look at the story for paragraph details. Good, it's right there. I think you will find some great material for writing details.
- Juan, you have three details that will make a great paragraph; what will make a strong summary statement?

Students are provided time to apply the feedback to strengthen their writing. *(Students assume ownership for applying teacher feedback to improve performance and accelerate their learning.)*

Middle school math: Students are learning about perpendicular bisectors. The teacher notices that many students had trouble with the previous day's homework. The teacher decides that group feedback is appropriate given the number of students that struggled with the homework. She begins the class by telling students that she is going to go over constructing a perpendicular bisector because of what she noticed in their homework. This statement communicates to students that the feedback being provided is in response to their work. *(Provides actionable, timely, and specific and individualized feedback about the quality of student work to: Students.)* As the teacher works problems on the board, she explains each step and has students label why each is needed. She returns students' homework papers and allows them to rework the problems they missed. *(Teaches students to use feedback to improve their learning. Students assume ownership for applying teacher feedback to improve performance and accelerate their learning.)* The teacher strategically checks in with students who demonstrated the most trouble with their homework and conferences with them for the purpose of assessing their thinking and providing more specific feedback. *(Provides actionable, timely, and specific and individualized feedback about the quality of student work to: Students.)* At the conclusion of the lesson, students complete two problems independently to assess their progress prior to the final unit assessment. *(Uses a variety of assessment methods.)*

High school art: This lesson represents the culmination of a unit on still-life drawings by famous artists, such as Andy Warhol, Paul Cezanne, and Giorgio Morandi. The lesson objective is for students to create a still life drawing using contour lines. The teacher provides an example of a still-life drawing she drew and uses it to teach students the criteria that will be used to evaluate their drawings. ***(Assesses learning outcomes appropriately.)*** As students work on their drawings, the teacher circulates to provide the following feedback: ***(Provides actionable, timely, specific, and individualized feedback about the quality of student work to: Students.)***

- You used contour lines to effectively draw the first object in your drawing. How can you apply this to show how the three objects overlap?
- As you draw, be sure to look at the outlines of the objects. It looks like you may be spending more time on drawing the details of the vase rather than its outline.
- As you draw, refer to the criteria provided. How are you capturing the shape of the bowl?

(Involves students in monitoring their learning.)

As students continue their drawing, the teacher begins each lesson by modeling how she used feedback from peers to improve her work. ***(Teaches students to use feedback to improve their learning.)***

Coaching/Self-Reflection Questions

- What methods will I use to provide actionable feedback to families, significant adults, and other professionals?
- How will I involve students in monitoring their learning?
- What criteria will I use in developing or selecting assessments for my lesson?
- What types of assessments will I use to monitor student learning?
- At what points in the lesson will I check for student understanding?
- How will I vary the methods I use to check for student understanding?
- How will I modify the checks for understanding in order to accommodate the needs and interests of individual students?
- How will I ensure that students receive actionable feedback that is timely and specific?
- How will I teach/model for students how to use feedback?

Glossary

ASSESSMENT PLAN: Assessment plan is the description or documentation for how student learning will be evaluated. It includes the expected student outcome, criteria for success, description of evaluation(s), and how the results will be utilized.

CLASSROOM BEHAVIOR: Classroom behavior is how students react to what is going on around them within the classroom.

COLLABORATION: Collaboration occurs when individuals work together in a cooperative manner for a common purpose or goal (e.g., solve a problem, develop a project, complete a task).

COMPREHENSION: Comprehension is the ability to understand or perceive what one reads and/or hears. The ability to grasp ideas.

CONTENT: Content is the subject area or topic that is being taught.

CREATIVE SKILLS: Creative skills refer to the ability to imagine and design new ideas.

CRITICAL THINKING: Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communications, as a guide to belief and action.

CULTURAL SENSITIVITY: Cultural sensitivity is the knowledge, awareness, and acceptances of different cultures.

DIFFERENTIATED CONTENT: Differentiated content is differentiating learning goals or objectives for students based on their academic readiness and previous mastery of skills or concepts.

DIFFERENTIATED INSTRUCTION: Differentiated instruction refers to how the teacher utilizes different instructional strategies, activities, and/or materials to meet the various cultural, developmental, and academic needs of students.

DIVERSITY: Diversity includes race, ethnicity, gender, sexual orientation, socioeconomic status, language, mental/physical abilities (students with disabilities, gifted and talented), religion, age, and political beliefs.

EMOTIONAL DEVELOPMENT: Emotional development is the manner in which individuals learn to interact in socially acceptable ways, establish and maintain relationships, and view themselves in positive ways.

EMOTIONAL INTELLIGENCE: The ability to identify and mange one's emotions and recognize the emotions of others in order to react appropriately

EMPATHY: Empathy is the identification and understanding of another's emotions.

HIGH EXPECTATIONS: High expectations are the strong belief that students can achieve.

HIGHER-ORDER THINKING: Higher-order thinking is the ability to understand complex concepts. It involves creative, logical, analytical, and reflective thinking.

INCONSEQUENTIAL COMPETITION: Inconsequential competition is competition that does not result in consequences or awards for winning or losing.

INNOVATION SKILLS: Innovation skills refer to the ability to refine and improve original ideas.

INQUIRY-BASED INSTRUCTION: Inquiry- based instruction provides opportunities for students to generate questions and ideas relevant to the content or concepts of a lesson or unit that guide their exploration and learning.

INSTRUCTIONAL STRATEGIES: Instructional strategies are tools, teaching methods, and activities that are used by educators to maximize student learning.

INTENSIVE: Intensive is the emphasizing of concepts or skills in a manner that maximizes learning time and supports attainment of deep knowledge and understanding.

INTERDISCIPLINARY: Interdisciplinary is the connecting of two or more different disciplines or content areas for the purpose of making relationships between concepts and skills within the different disciplines.

LEARNING GROUPS: Learning groups are comprised of two or more individuals grouped together for the purpose of enhancing their learning and that of the group members through discussion of information and/or completion of a task.

LEARNING STYLES: Learning styles are the ways in which an individual prefers to learn or learns best. For example, individuals may be visual, auditory, and/or kinesthetic learners.

LITERACY: Literacy is the ability to read and write.

MENTOR TEXTS: Mentor texts are examples of writing, which can be books, that are used to teach writing skills.

MULTIPLE INTELLIGENCE: Multiple intelligences are a theory of intelligence developed in the 1980s by Hoard Gardner that refer to an individual's preferred way of learning, developing or processing information.

NETIQUETTE: Netiquette is the set of rules of etiquette that applies when communicating over computer networks, especially the Internet.

PROBLEM-SOLVING SKILLS: Problem-solving is the ability to critically analyze a problem, identify and organize relevant information, and then prepare a workable solution.

RELEVANCE: Relevance is the alignment of instructional strategies, materials, and/or activities to students' interests, culture, and learning preferences.

SELF-MONITOR: Self-monitor is the act of evaluating and controlling of one's own actions and learning or progress towards a goal.

STANDARDS: Standards are statements of what students should know and be able to do.

SUB-OBJECTIVES: Sub-objectives are the skills or knowledge needed in order to meet the focus learning objective.

SUMMATIVE: Summative assessments are assessments usually administered at the end of a chapter, unit, term, semester or year for the purpose of evaluating student learning.

WAIT TIME: Wait time is the amount of time a teacher or other student waits for someone to respond to a question. It is the time provided for one to process the question and formulate one's response.

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Internal Resource Documents

Internal Resource Document Title	Alignment to Standards and Elements
A Teacher's Words Matter	Standard II, Element B
Accountability Strategies	Standard II, Element C Standard III, Element E
Assigning Roles for Group Members	Standard III, Element F
Bloom's Taxonomy Question Types	Standard II, Element C Standard III, Element E
Characteristics of Learning Styles Preferences	Standard I, Element D Standard III, Element C
Common Core State Standards and Critical Thinking	Standard I, Element B ALL Standard III, Element E
Communicating Effectively with Students	Standard III, Element G
Communicating Learning Objectives	Standard III, Element G
Determining Your Learning Preference	Standard I, Element D Standard II, Element C
Discipline of Mathematics as a 21st Century Skill	Standard I, Element C MATH
Engaging Students in the Use of Multiple Representations	Standard I, Element D
Establishing and Teaching Procedures	Standard II, Element F
Examples and Non-examples of Quality Feedback to Parents	Standard III, Element H
Examples and Non-examples of Quality Feedback to Students	Standard III, Element H
Examples for How to Use Technology to Enhance Instruction	Standard III, Element D
Examples of Assessment Methods Based on Students' Learning Preferences	Standard III, Element H
Examples of Lesson Plans	Standard I, Element A
Examples of Modifications of Content	Standard III, Element A
Examples of Netiquette	Standard III, Element D
Examples of Ways Teachers May Differentiate in the Classroom	Standard III, Element C
How Teachers Communicate Expectations to Students	Standard III, Element E
I Wonder Bookmark	Standard III, Element E

Resource Document Title	Alignment to Standards and Elements
I Wonder Worksheet	Standard III, Element E
Interest Inventory for Students	Standard I, Element D Standard II, Element C Standard III, Element C
Interest Survey on a Content Topic	Standard II, Element C
Learning Objectives vs Activity Statements	Standard I, Element A
Levels of Cognitive Demand	Standard I, Element C MATH
Listening Skills	Standard I, Element B ELEM/SEC
Multiple Intelligence Survey for Elementary Students	Standard I, Element D Standard II, Element C Standard III, Element C
Multiple Intelligence Survey for Secondary Students	Standard I, Element D Standard II, Element C Standard III, Element C
Purposeful Use of Visuals	Standard II, Element F
Research on Differentiation of Content	Standard III, Element A
Research on the Use of Formative Assessments	Standard III, Element B
Sentence Starters for Teaching Students Accountable Talk	Standard I, Element B ELEM/SEC Standard II, Element A Standard II, Element B Standard III, Element G
Standards for Mathematical Practice	Standard I, Element C MATH Standard I, Element D
Strategies for Creating a Sense of Community	Standard II, Element B
Strategies for Employing Numeracy Across Content Areas	Standard I, Element C ALL Standard I, Element E
Strategies for Forming Groups	Standard III, Element F
Strategies for Managing the Use of Computers in the Classroom	Standard III, Element D
Strategies to Help Students Learn to Use Feedback	Standard III, Element H
Student Bill of Rights	Standard II, Element A
Student Outcomes	Standard III, Element B
Teaching Empathy and Respect through Literature	Standard II, Element A
Teaching Students How to Ask Questions	Standard III, Element E

Resource Document Title	Alignment to Standards and Elements
Types of Problem-Solving Skills with Definitions and Examples	Standard III, Element E
Using Question Words with Younger Students	Standard III, Element E
What Does It Mean to Scaffold Questions and Tasks	Standard II, Element C Standard III, Element E

A Teacher's Words Matter

Phrases that Acknowledge the Value of Students' Contributions and Thinking

- Example: A student says something in response to a statement or question, but the teacher is not sure where he/she are headed or what he/she are talking about.

  Possible Teacher Response:
  - Say more about that.
  - This is what I think I heard you say. Do I have it right?

  Rationale: When the teacher does not really know what students are talking about or thinking, these responses can demonstrate a willingness to listen and understand. It is important for students to take ownership for explaining their thinking. Teachers must realize that when they dismiss a student's thinking, they may also be perceived as dismissing the student.

- Example: A student says something that seems so bizarre to the teacher that one wonders if he/she have been listening or following directions at all.

  Possible Teacher Response:
  - Wow, I never thought about it like that before! Tell me more.
  - So help me out here. What's the evidence in the (text, your experiences, etc.) that led you to that conclusion?

  Rationale: Although some students may say things just to get a reaction, they still need to know that they are expected to substantiate their thinking. When students realize that a teacher is serious about their taking ownership for their responses, they are more likely to contribute to class discussions in a meaningful way.

- Example: Students need to broaden and expand their thinking.

  Possible Teacher Response:
  - What might be another way of thinking about this?
  - Let's look at this a different way. What if…?

  Rationale: This type of response can support students in understanding the importance of being open-minded, listening to others' perspectives, and seeing the value in learning from others.

- Example: Students struggle to figure something out that is creating challenges for them.

  Possible Teacher Response:
  - What do you think you can try next?
  - Have you seen this kind of problem before? Do you remember what I did when I modeled this type of problem or what another student did?

  Rationale: Students need time and support in wrestling with their own thinking and problem-solving abilities. This is also an opportunity for students to learn from one another.

- **Example: Students are able to make sense of a concept or problem that has been challenging for them.**

  Possible Teacher Response:

  - **How did you figure it out? Can you share your thinking with someone else?**
  - **What did you learn today about yourself as a (reader, mathematician, scientist, artist, musician, etc.) today?**

  Rationale: When students are able to solve a problem or get the right answer, they may see it as a lucky guess. This type of response encourages students to think about their thinking. The teacher can also encourage students to explain their thinking to others.

Accountability Strategies

Strategy	Explanation/Impact
Everybody Writes	• All students stop, think, and write a response to the teacher's question. Responses may be written on whiteboards or paper. *Impact:* • Provides students time to process and think (wait time). • Holds all students accountable to formulate a response. • Allows teacher to assess all students by circulating and reading responses.
Turn and Talk or Think, Pair, Share	• Students are given time to process and formulate their thinking (Think, Pair, Share). • Students share their response to a specific question with a partner. • Students share their partner's response, as opposed to their own, when sharing with others or in whole group. *Impact:* • Holds students accountable as individuals and partner to share and listen. • Allows teacher to assess all students by circulating and listening to responses.
Cold Call	• Students are randomly called on to respond to questions. • Teachers may use sticks with students' names, spinners, etc., to select student name. • Teachers should let students know he/she will be cold calling prior to posing question until students become accustomed to this method. This communicates the expectation for all students to formulate a response. *Impact:* • Holds all students accountable to formulate a response. • Teachers can differentiate questions based on student needs. • Allows teachers to assess a variety of students' thinking, not just students who volunteer to answer questions.
No Opt-out	• When a student does not know an answer to a question or answers incorrectly, the teacher returns to them after a correct response is given. *Impact:* • Holds students accountable to listen to others' responses. • Students can't get "off the hook" with "I don't know". • Students have an opportunity to correct their thinking.

Signaling	• Students use a designated type of signal to respond to a question. • Teacher communicates clear expectations for when to signal so all students signal at the same time. • Teacher models how to signal. (Ex: For thumbs up or down, hold your hand against your chest so others can't see your answer.) *Impact:* • Holds all students accountable to respond. • Allows teacher to quickly assess all students. • Signaling can provide opportunity for student movement for kinesthetic learners.
Pass It On	• Students are placed in groups of three to five. • Teacher asks a question that has multiple answers. (Ex: List nouns; name the continents, spelling word review, etc.) • First student writes a response or letter and quickly passes the paper to the next group member. This continues until time is called or all responses are written. *Impact:* • Holds all students accountable to respond. • Allows teacher to assess each student. • Allows for group competition and support.

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Assigning Roles for Group Members

Roles are assigned to students working in groups in order to:

- **Increase student participation and accountability.**
- **Support students in developing communication, collaboration, and leadership skills.**
- **Increase time on task for all students.**
- **Increase time for the teacher to support students and assess individual and group learning.**

When introducing roles to students, it is helpful to provide a visual of the roles with expectations for each. For younger students, this may include a picture that represents each role. Teachers should identify and explain each role by providing examples for how it should be implemented and its impact on the success of the group.

Possible Roles for Group Projects

- **Leader/Editor**: The Leader/Editor is responsible for organizing the final project and ensuring it meets the timeline, quality, and content criteria established by the teacher.
- **Recorder/Secretary**: The Recorder/Secretary takes notes whenever the group meets and keeps track of group data/sources/etc. This student distributes notes and reminders to group members highlighting next steps for their parts of the project.
- **Monitor:** The monitor is responsible for double-checking data, bibliographic sources, or graphics for accuracy and correctness.
- **Spokesperson**: The Spokesperson is responsible for the technical or visual details of the final product and provides updates on the group's progress to the teacher.
- **Resource Manager:** The Resource Manager is responsible for gathering and returning materials within the classroom. Assigning one student from each group to handle crayons, markers, paper, and other supplies can significantly reduce the chaos of project-oriented work within the classroom environment.

Possible Roles for Group Discussions

- **Facilitator/Encourager**: The Facilitator/Encourager ensures all members participate in discussions by asking group members questions or asking them to respond to others' comments.
- **Timekeeper**: The Timekeeper makes sure that the group stays on track and completes the task in the time provided.
- **Summarizer**: The Summarizer periodically provides a summary of the discussion for other students to approve or amend. This student also ensures that what others comprehended is what members wanted to communicate.
- **Scribe**: The Scribe takes notes on the discussion and highlights shared opinions or decisions made.

Bloom's Taxonomy Question Types

Question Type	Actions/Prompts/Verbs
Remembering	• observation and recall of information • knowledge of dates, events, places • knowledge of major ideas **Possible Question Cues:** list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where
Understanding	• understanding information • grasp meaning • translate knowledge into new context • interpret facts, compare, contrast • predict consequences **Possible Question Cues:** summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
Application	• use information • use methods, concepts, theories in new situations • solve problems using required skills or knowledge **Possible Questions Cues:** apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Analysis	• seeing patterns • organization of parts • recognition of hidden meanings • identification of components **Possible Question Cues:** analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
Evaluation	• compare and discriminate between ideas • assess value of theories, presentations • make choices based on reasoned argument • verify value of evidence • recognize subjectivity **Possible Question Cues:** assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize
Creation	• use old ideas to create new ones • generalize from given facts • relate knowledge from several areas • predict, draw conclusions **Possible Question Cues:** combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite

Characteristics of Learning Styles Preferences

Learning Style	Characteristics	Possible Ways to Differentiate Instruction
Auditory	• Prefer to hear information • Generally works from pieces to the whole • Tend to be orderly and sequential • Can more easily memorize facts and figures • Distracts easily by noises or music • Talks aloud to self • Participates in class discussions • Competitive	• Provide rhymes or mnemonic devices to remember things • Allow students to tape lectures • Provide books on tape • Provide opportunities to discuss ideas with others • Provide directions verbally • Provide instruction in a logical, sequential format • Use videos • Make connections between concepts being taught • Use games or contests • Use paraphrasing and summarizing
Visual	• Prefer charts, graphs or other visual aids • Generally work from global to specific • Tend to be more holistic and imaginative • Rely on their senses • Creative • Doodlers • May appear to lose focus during lectures	• Provide visuals of directions or steps • Provide graphic organizers • Make highlighters available when reading or taking notes • Allow to role play or label diagrams • Provide an overview of the lesson or concept before teaching each part • Use videos • Include write, pair, share activities • Provide a written agenda or organization of the lesson • Use technology, such as PowerPoint presentations • Allow to illustrate concepts rather than write • Provide whiteboards
Visual Reader	• Prefer to gain new information by reading • Are note takers • May reread silently after hearing a text read • Prefer to use dictionaries and manuals	• Provide copies of lectures or text that is being read • Allow to write responses to questions • Provide handouts or organizers for note taking
Kinesthetic	• Learn best by being physical • Need to be actively involved in learning • Need first hand experiences • May appear distracted during lectures • May fidget in their seat • May tap pencils or foot • Use hands when talking • Doodles when listening to a lecture	• Provide practice time after teaching a concept • Use games or manipulatives • Allow to role play or engage in simulations • Provide breaks during lessons for movement • Use interactive software • Provide objects for students to touch and examine • Allow to build models or diagrams

References: Sarasin, L. C. (1998). *Learning styles perspectives: Impact in the classroom*. Madison, WI: Atwood Publishing.

Common Core State Standards and Critical Thinking

Common Core State Standards require students to be able to evaluate, analyze, critique and reflect. These verbs represent the vocabulary of critical thinking. Tasks required by the Common Core must move beyond rote memorization, multiple choice, and simple identification of facts into critical thinking and problem-solving skills. To be successful with the demands of Common Core, students must become independent thinkers who are able to problem solve and communicate effectively.

To meet Common Core standards, teachers will need to begin "thinking about thinking" (Snyder & Snyder, 2008, 90) in order to ensure students develop the skills to be effective in college and the workplace. The goal of education is to ensure students can solve problems in order to make decisions effectively. To do this they must have opportunities to apply critical thinking skills to become better students and citizens. Jennifer Mulnix (2012) best described it:

> For students to improve, they must engage in critical thinking itself. It is not enough to learn about critical thinking. These strategies are about as effective as working on your tennis game while watching Wimbledon. Unless the students are actually doing the thinking themselves, they will never improve (476).

The Common Core not only requires students to think critically, but to read critically. Teachers of all content areas must become strategic in selecting complex texts they use with students and plan instruction that requires students to engage cognitively with a variety of texts.

Requirements of Common Core Literacy Standards:

- Close reading of fiction and non-fiction
- Interpreting primary source documents
- Comparing multiple texts
- Finding evidence and using it to support arguments
- Recognizing historical context and point of view
- Utilizing higher-level thinking to analyze and form judgments

The Common Core Math Standards require students to go beyond a procedural understanding of mathematical concepts to a conceptual understanding in which they are able to think critically and apply what they have learned to solve problems.

Requirements of Common Core Math Standards:

- Consider analogous problems
- Represent problems coherently and in a variety of formats
- Justify conclusions
- Apply mathematical concepts to real-world situations

- Use technology appropriately and effectively to work with mathematics
- Explain mathematics accurately to others
- Deviate from a known procedure in order to identify other strategies for solving problems

References:

Snyder, L., & Snyder, M. (2008). Teaching critical thinking and problem solving skills. *Delta Pi Epilson Journal, 50*(2), 90-99.

Standards for Mathematical Practice. (n.d.). Retrieved from http://www.corestandards.org/Math/Practice/

Mulnix, J. W. (2012). Thinking critically about critical thinking. *Educational Philosophy & Theory, 44*(5), 464-479.

For students to be successful with Common Core State Standards and Colorado Academic Standards, as well as be college- and career-ready, teachers must provide opportunities for them to develop and apply critical thinking and problem solving skills.

Communicating Effectively with Students

Effective communication involves the skills of speaking and listening, as well as nonverbal and interpersonal skills. An effective communicator understands that one's body language and facial expressions can enhance or detract from the message being communicated. Teachers who communicate effectively with all students display the following skills.

Speaking

- Words
  A teacher's choice of words should be clear and understandable to students.
  - Directions should be provided in a sequential order students can follow.
  - Language should be appropriate for the content and age of students.
  - Vocabulary and new content/concepts should be introduced using student-friendly terms that allow students to make connections to previous knowledge and experiences.
  - Words should be pronounced clearly and correctly at a rate all students can understand.

- Grammar
  Proper grammar is an essential component of teacher communication. Just as students come from a variety of backgrounds and locations, teachers do also. However, the grammar and speech utilized with students should be that of academia. Slangs and colloquiums should be avoided in communication with students unless utilized to teach specific time periods or cultures.

- Volume
  A teacher's volume should be at an appropriate level for all students to hear and understand. The teacher's volume should also provide a model for the volume level students are expected to use when speaking with one another.

Listening

Effective listening skills allow a teacher to understand students' thinking and progress towards learning goals.

- Objective listening behaviors
  - Refrains from making value judgments.
  - Allows students to express their thinking fully before reacting.
  - Avoids second-guessing what students are trying to say.
  - Recognizes feelings and emotions in the speaker's message and reacts appropriately.

- Curious listening (listening with a purpose and an inquisitive mind). Being a curious listener allows teachers to:
  - Question more effectively.
  - Provide opportunities for students to build on a peer's response.
  - Provide academic feedback (*refer to Standard III, Element H*).
  - Summarize and paraphrase student responses.

Nonverbal Communication

Nonverbal communication includes facial expressions, such as smiles, gestures, eye contact, and posture. When used in a positive manner it shows students that the teacher is actively listening and interested in what they are saying. It can make students feel comfortable and confident that their opinions are valued.

Examples of positive nonverbal communication:

- Nodding your head in agreement, or as a display of interest in what a student is saying.
- Eye contact - looking directly at the student speaking, and maintaining eye contact.
- Body posture - maintaining a body posture that signifies openness to students' ideas - avoid folding arms across one's body or turning away from students speaking.
- Physical distance - when possible, position yourself next to students when they are speaking. When working individually with students, kneel by them so you are on their level. This can communicate your interest in what they are saying and make the student feel more open to sharing their thinking with you.

Communicating Learning Objectives

The first step in communicating learning objectives is the creation of objectives that are specific and measurable. They should include what students will know and be able to do by the end of the lesson. (*refer to Standard I, Element A*)

Strategies for Communicating Learning Objectives:

- Provide a visual of the learning objectives.
  - Visuals of learning objectives should be accessible by all students and in language that students can understand and explain.
  - Standards/lesson objective(s) may be displayed using graphic organizers such as webbing or mapping. This type of visual can support students in making connections between content standards and daily lesson objectives. Students are able to see the "big picture" of a unit and understand how daily learning objectives support them in meeting unit goals and content standards.
- Provide exemplars of student work so students are clear on what mastery of learning objectives will look like and/or sound like.
- Create essential questions from the learning objectives and provide opportunities for students to reflect on the questions during the learning process. Examples of reflection questions:
  - "What have you learned so far that helps you answer our essential questions?"
  - "What else do you need to learn?"
- Explain to students how they will use what they are learning. Make explicit connections between what they are currently learning and what they have already learned. This can support students in understanding how their learning builds. It can also build students' confidence when they are able to see that they already possess pre-requisite knowledge or skills to meet the lesson objectives.
- Periodically ask students to explain in their own words why they are completing a particular task. This allows teachers to make sure students can connect the lesson tasks to the learning objectives.

Reference:

Jackson, R. R. (2009). *Never work harder than your students & other principles of great teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Determining Your Learning Preference

Circle the option, A, B, C, or D that best relates to you most of the time. You may circle more than one option. Your first reaction is usually the best.

1. I 'take in' new information best when:
   A. I can see information in picture or diagram form.
   B. I read the written instructions.
   C. Someone talks or explains to me.
   D. I can get hands on experience.

2. When I am giving directions to a destination, I usually:
   A. Draw a map.
   B. Write down the directions.
   C. Tell the person how to get there.
   D. Take the person and show him/her the way.

3. I remember directions best when:
   A. Someone gives me landmarks to guide me.
   B. I write them down.
   C. I have oral directions and repeat them aloud.
   D. I have been taken through the route once.

4. When I am not sure how to spell a word, I often:
   A. See the word in my mind and 'see' how to spell it.
   B. Look it up in the dictionary.
   C. Sound the word out in my mind or aloud.
   D. Write down different ways of spelling the word.

5. To remember and recall an event, I would want to:
   A. See pictures.
   B. Read a description.
   C. Tell it aloud to someone.
   D. Replay it through movement - acting, pantomime, or drill.

6. I seem to remember objects better if:
   A. I can see a picture, a pattern.
   B. I have read about them.
   C. I create jingles or rhymes.
   D. I have touched or worked with them.

7. When using a new piece of equipment, i.e., computer, camera, I would:
   A. Follow the diagrams in the instructions book.
   B. Read the directions in the instructions book.
   C. Ask someone to 'talk' me through it.
   D. Jump right in and figure it out.

8. I enjoy:
    A. Making or viewing slides, photographs.
    B. Reading about things that interest me.
    C. Reciting or writing poetry.
    D. Working with my hands, repairing and building things.

9. I prefer to find out about something new by:
    A. Seeing pictures, diagrams about it.
    B. Reading about it, finding a website.
    C. Talking about it.
    D. Doing it.

10. I prefer a teacher/trainer who uses:
    A. Charts, diagrams, graphs.
    B. Handouts, books, readings.
    C. Discussion, guest speakers.
    D. Demonstrates, models, provides time to practice.

Total your responses:

A _____ Prefer to take in information by seeing - Visual learner

B _____ Prefer to take in information by reading, writing - Visual reader learner

C _____ Prefer to take in information by listening, talking - Auditory learner

D _____ Prefer to take in information by doing, practicing - Kinesthetic learner

The highest score represents your preferred learning style. If scores are tied or close, you may have multiple styles in which you learn best. Knowing our learning styles helps us to process information and develop study skills that best meet our individual needs. We may utilize all four styles at different times, but our preferences affect the order in which we best take in information and can enhance our learning and mastery of new information and skills.

"Knowing that there are differences goes a long way toward explaining things like why we have problems understanding and communicating with some people and not with others, and why we handle some situations more easily than others."

Reference:

Porter, B. D., & Hernacki, M. (1995). *Brain-Training: Wie Sie Ihre mentalen Fähigkeiten optimal nutzen.* München: Droemer Knaur.

Discipline of Mathematics as a 21st Century Skill

Mathematics in Colorado's description of 21st century skills is a synthesis of the essential abilities students must apply in our rapidly changing world. Today's mathematics students need a repertoire of knowledge and skills that are more diverse, complex, and integrated than any previous generation. Mathematics is inherently demonstrated in each of Colorado 21st century skills, as follows:

Critical Thinking and Reasoning

Mathematics is a discipline grounded in critical thinking and reasoning. Doing mathematics involves recognizing problematic aspects of situations, devising and carrying out strategies, evaluating the reasonableness of solutions, and justifying methods, strategies, and solutions. Mathematics provides the grammar and structure that make it possible to describe patterns that exist in nature and society.

Information Literacy

The discipline of mathematics equips students with tools and habits of mind to organize and interpret quantitative data. Informationally literate mathematics students effectively use learning tools, including technology, and clearly communicate using mathematical language.

Collaboration

Mathematics is a social discipline involving the exchange of ideas. In the course of doing mathematics, students offer ideas, strategies, solutions, justifications, and proofs for others to evaluate. In turn, the mathematics student interprets and evaluates the ideas, strategies, solutions, justifications and proofs of others.

Self-Direction

Doing mathematics requires a productive disposition and self-direction. It involves monitoring and assessing one's mathematical thinking and persistence in searching for patterns, relationships, and sensible solutions.

Invention

Mathematics is a dynamic discipline, ever expanding as new ideas are contributed. Invention is the key element as students make and test conjectures, create mathematical models of real-world phenomena, generalize results, and make connections among ideas, strategies and solutions.

References:

Colorado Standards. (2013, September 18). Retrieved from http://www.cde.state.co.us/standardsandinstruction/coloradostandards

Engaging Students in the Use of Multiple Representations

Utilizing multiple ways to represent and present information can support students in applying critical thinking skills and making connections across concepts and ideas. When students have opportunities to be creative and express their learning in various ways, they can be more motivated and engaged in the learning process.

Social Studies/History

- Timelines: Students create timelines of historical events with pictorial representations. Students may also include dates related to the arts or literature in order to provide a more complete representation of a specific time period.
- Murals: Students create a mural depicting an historical event, person's life, or time period. Murals may also be created to represent cultures of other countries or their local community.
- Journal entries: Students write a journal entry from the perspective of a historical figure, immigrant, student living in another country, etc.

Math

- Manipulatives: Students use objects to represent math problems or equations.
- Graphics: Students express mathematical concepts through graphs, webs, illustrations, photographs, etc. May include written explanations for how the representations depict the concept or idea.
- Symbols: Students use symbols to represent mathematical thinking.

Reading

- Illustrations: Students illustrate character's traits or setting of a text.
- Writing: Students write letters or diary entries from the perspective of a character.
- Graphics: Students summarize information from a text through the use of graphic organizers, timelines, advertisements, etc.

Vocabulary

- Role play: Students "act out" vocabulary words similar to charades. Other students identify the word and explain its importance to the concepts they are learning.
- Illustrations: Students represent the word through illustrations or photographs.
- Word webs: Students represent the meaning of a word in multiple ways including illustrations, analogies, synonyms, and antonyms.

Science

- Writing: Students write news articles, editorials, etc. about results from science experiments or as a means of communicating information learned from texts, etc.
- Projects: Students apply information learned to create solutions to environmental problems and communicate their ideas through editorials, brochures, posters, etc.
- Experiments: Students create experiments to solve for unknowns or find solutions to their questions.

Establishing and Teaching Procedures

Establishing Procedures

Identifying the procedures that need to be established for a classroom to be safe and orderly can be overwhelming for teachers, especially those new to the profession. Below are examples of procedures teachers may consider establishing.

Beginning of Class Procedures	During Class Procedures	End of Class Procedures	Special Situations
Entering the classroom	Accessing supplies, computers or sharpening pencils	Putting away supplies	Attending assemblies
Entering class late	Organizing materials/desks	Recording homework assignments	Going to the library, office, nurse, etc.
Turning in homework	Headings on papers	Packing book bags, etc.	Listening to guest speakers
Accessing instructions for a "Do Now" or "Bell Ringer"	Responding to questions	Leaving the classroom	Welcoming visitors into the classroom
Taking attendance	Reading silently	Walking in hallways	Listening to school announcements
Using cubbies/lockers	Taking assessments		Practicing fire drills, etc.
	Turning in work		
	Asking for assistance		
	Finishing work early		
	Using the bathroom		

Adapted from Examples of Procedures to Rehearse with Students from (Wong & Wong, 2005, p. 193) and (Smith, 2004, pp. 83-85)

Teaching Procedures

The use of visuals can support students in following procedures that promote a safe and orderly environment. Below are examples of visual supports teachers may utilize:

- Classroom rules
- Hall expectations
- Labels for classroom items (may be in multiple languages depending on student population)
- Labels containers for materials and supplies
- Labeled trays for student work (ex: homework, missed assignments, assessments)
- Student jobs
- Schedule for school day and/or lesson agenda

Examples and Non-examples of Quality Feedback to Parents

Feedback	Analysis of Feedback Quality
Your child is always so well-behaved. I can always count on him/her to follow our classroom rules.	This is an example of **ineffective feedback**. While these statements may make a parent feel good about their child, they are general and do not describe how the child's actions are supporting their learning. Instead a teacher may say, "Your child consistently follows directions the first time they are given. They are able to stay focused and complete tasks according to my directions. This is having a positive impact on their daily grades (and provides examples)."
_____ (child's name) is struggling with math word problems. He/she needs to work on identifying what the problem is asking. One way you can help is to have ____ draw a picture of what a word problem is about. This can help ___ to visualize what is happening in the problem in order to identify the question they need to solve. You may also want to create word problems based on experiences at home. (Teacher may provide an example.)	This is an example of **effective feedback**. The teacher has provided specific ways the parent can support their child with a math skill. The parent is clear on what is preventing their child from being successful with word problems and has clear ways they can help.
_____ has a lot of missing homework assignments. This is having a negative impact on his/her grade. Please make sure to check for homework completion each night.	This is an example of **ineffective feedback**. Although the teacher labels what is having a negative impact on the child's grade, specifics about missing homework assignments are not provided. To make this feedback effective, the teacher may provide a list of missing assignments and actionable steps the parent can take to support the student in completing homework.

In reading, we have been learning how to use clues the author and illustrator provide us to figure out the meaning of words we do not know. ____ (child's name) has been successful in using these context clues to determine the meaning of unknown words. I continually see him/her use clues in illustrations and the words when he/she gets to an unfamiliar word. As you read at home, ask how he/she knows the meaning of new words. This will help reinforce this important reading skill.

Next week, we will be learning about affixes, which are letters or words added to the beginning or ending of another word. Here is a list of the ones we will focus on in our reading. You can use this list to review with your child. You may want to ask him/her to show you words in their book that have these affixes and how it changes the meaning of the word.

This is an example of **effective feedback**. The teacher provides specific student actions that are supporting him/her in being a successful reader. The parent is clear on the child's progress and has specific ways they can support at home. The teacher also provided a resource for the parent to reference.

Examples and Non-examples of Quality Feedback to Student

Feedback	Analysis of Feedback Quality
"This report is better than your last one. You've made it clear that you think we should recycle newspapers. What would make it even better is more facts about what would happen if we did recycle-more about how many trees we would save or other facts related to recycling."	This is an example of high-quality feedback that uses self-referenced comparisons in conjunction with descriptive information about the task to show struggling students that their work is improving. Then, when the teacher suggests what they need to do next, they will be more likely to believe they can do it as the feedback lets them know they are progressing toward the learning goal. The teacher makes one suggestion, not multiple ones. Giving feedback on small steps can help students who may be overwhelmed by having to improve in many areas at once.
"Your report was the shortest one in the class. You didn't put enough content in it."	This is an example of ineffective feedback. The teacher aims to communicate the same feedback message as in the previous example. Saying it this way, however, implies that the student is competing with others (as opposed to aiming for a learning target) and that the reason the work is poor is that the student "did something bad." The student ends up feeling judged and not motivated to improve or take risks.
"The chart that starts at the trees and ends up at the recycling plant (instead of back at the trees) is very effective in demonstrating your point. It follows the relevant section of your report and illustrates the complete cycle so clearly. How did you come up with that idea?"	This is an example of high-quality feedback. It focuses on an interesting, positive feature of a student's report. The teacher's comments require the student to reflect on how he or she came up with the idea. Having the student name the strategy used will strengthen the student's ability to self-monitor and self-direct his/her learning.
"Your report is the best one in the class! You can have a "free pass" for your homework tonight."	This is an example of ineffective feedback. It does not tell the student what is good about the report, and it rewards the student by changing an unrelated assignment. Feedback like this is a missed opportunity to reinforce a student's strength and ask him/her to reflect on the work.

Reference:

Brookhart, S. M. (2008). Feedback that fits. *Educational Leadership, 65*(4), 54-59. Retrieved from http://www.ascd.org/publications/educational-leadership/dec07/vol65/num04/Feedback-That-Fits.aspx

Examples for How to Use Technology to Enhance Instruction
(Connections to Other Professional Practices)

Professional Practice	Use of Technology to Enhance Professional Practices?
Differentiates instruction. (Standard III, Element A) Individualizes instructional approach to meet unique needs of each student. (Standard III, Element C)	Podcasts can serve as "building blocks" to support lesson skills and concepts. They can provide "just-in-time" learning that is differentiated for students. Podcasts can also be produced by students for their peers.
Teacher breaks down concepts into instructional parts. (Standard I, Element D)	Concept mapping software can provide students with the "big picture" or conceptual understandings and the necessary procedural skills to obtain concept mastery.
Teacher provides opportunities for students to work in teams using various roles and modes of communication. (Standard III, Element F)	A class Wiki can provide a common place for teams to discuss issues, build cooperative projects, archive documents, and critique team members' work.
Teacher involves students in monitoring their learning. (Standard III, Element H) • *Students understand the criteria by which their work will be assessed* • *Guidelines for assignments are clear* • *Timelines are provided*	Teachers post work assignments, criteria and rubrics, timelines, guidelines for pacing and self-evaluation of work, along with supporting resources, on the web which can be accessed 24/7.
Teacher provides actionable, timely, specific, and individualized feedback about the quality of student work. Students effectively use formal and informal feedback to monitor their learning. (Standard III, Element H)	Use of online communication tools and virtual posting of work provide opportunities for the teacher and students to view and critique work in order to provide and apply feedback.
Provides opportunities for students to practice communication skills. (Standard III, Element G)	Partner with classroom in a different part of the state or country and have students exchange emails, a technology version of pen pals. Arrange for a group of experts to accept emails from students on a specific topic. When students can communicate with a video game designer, astronaut, or engineer who uses math and science skills every day, students can develop a deeper understanding of "real-world implications" for content and skills they are learning.
Teacher provides instruction that enhances students' critical thinking and reasoning, information literacy, and literacy skill development. (Standard I, Element B)	Have students create a blog from the perspective of a character in a story or novel, an historical figure, scientist, or musician.

Examples of Assessment Methods Based on Students' Learning Preferences

Learning Outcome	Students' Learning Preference or Level of Academic Readiness	Product *For each product to be used as an assessment of the learning goal, specific criteria will need to be established.*	
Students will identify traits of a main character	Logical -Mathematical MI	Students complete a graphic organizer identifying character traits, or Students categorize traits by appearance, actions, and feelings.	
	Visual-Spatial MI	Students draw the character and label his/her characteristics or students create symbols to represent the character's traits.	
	Interpersonal MI	Students write a letter to someone describing themselves as if they were the character in a story.	
Students will identify the main idea of a passage	A group of students is able to identify the main idea when it is stated	Students use details from the text and their own connections to identify an *implied main idea.*	To further differentiate, students may write the main idea, illustrate the main idea, or create a symbol to represent the main idea.
	A group of students is unable to identify the main idea either stated or implied	Students use details from the text and a possible main idea sentence to identify a *stated main idea.*	
Students will be able to define compound words and identify each word part	Visual Reader LS Verbal-Linguistic MI	Students write definitions for words, underline or highlight each word part, and create a sentence utilizing the word correctly.	
	Visual LS Kinesthetic LS Visual-Spatial MI Logical-Mathematical MI	Students create pictorial representations or symbols for compound words, defining the word parts and the meaning of the compound word.	
Students will be able to describe the cultures of various Native American groups prior to colonization	All LS and MI Naturalists may use sticks, leaves, etc. to create dioramas	Students work in cooperative groups to describe aspects of a specific Native American group's culture (foods, celebrations, buildings, religion, etc.). Students may write paragraphs, create dioramas, role-play, or create crafts and music typical of the group they are studying.	
Students will be able to explain the contribution made by Rosa Parks to American history	Visual Reader LS Intrapersonal MI	Students write their explanation in a paragraph, or write a letter to a child living today, and explain how America is different due to Rosa Parks' contributions.	
	Visual-Spatial MI Interpersonal MI	Students create a story to tell their classmates about Rosa Parks' contributions.	
	Musical MI	Students create a song or poem explaining Rosa Parks' contributions.	
	Students who are advanced readers and can already articulate Rosa Parks' contributions based on prior readings and experiences	Students compare Rosa Parks' contributions to American history with a figure of today or another lesser known one from the past.	

MI: Multiple Intelligence **LS:** Learning Style

Examples of Lesson Plans

Kindergarten Reading Lesson Plan

Colorado Academic Standard: Recognize common types of texts (e.g., storybooks, poems). (CCSS: RL.K.5)

Instructional Objective: Students Will Be Able To (SWBAT) recognize that there are different types of fiction.

Daily review and revision:

Questioning:

- What is the difference between a fiction and nonfiction book? (may show front covers of books previously read)
- Why would I read a fiction book? Why would I read a nonfiction book?
- What are some things I will see when I open a fiction book?

There are different types of fiction. They do not all look the same. Today, we are going to look at different types of fiction writing.

Connections to learning objectives and approved curriculum:

Let's make a chart together to help us remember different types of fiction. The chart will also help us to remember what the different types of fiction look like.

(hold up fiction – story book) Is this fiction or nonfiction? How do you know?
This is a story. A story is a type of fiction. What are some features of a story? (it has characters, setting, might begin once upon a time) When I pick up this book, I know that it is fiction and that it is a story. How do I know this is a story?

(hold up poem) This is another type of fiction. It is called a poem. Say poem. A poem is in the fiction family, like a story, but it looks very different. Tell me about the way a poem looks. (it can have rhyming words, sometimes it is written in middle of a page, it has stanzas) How do I know this is a poem? Is a poem fiction?

(hold up drama) This is another type of fiction. It is called a drama. Say drama. A drama is in the fiction family. What other kinds of text are in the fiction family? Look at this drama. It looks different than a poem and a story. How does it look different?

Active Engagement:

Let's look at our new chart and make sure it helps us to know the types of fiction and what they look like. I'm going to hold up an example of text. You will tell me if it is fiction or nonfiction.
(teacher will hold up examples of story books, non-fiction books, and poems)

Link: (Teacher concludes the mini-lesson by linking today's lesson to the student's ongoing reading.)

When you pick up something to read, remember, it might be part of fiction family. And, if it is in the fiction family, it can be a story, a poem, or a drama.
Written Response Activity:
Circle all the pictures that are fiction (story book, poem, non-fiction)

6th Grade Math Lesson Plan

Colorado Academic Standard: Fluently add, subtract, multiply, and divide multi-digit decimals using standard algorithms for each operation. (CCSS: 6.NS.3)

Instructional Objective: SWBAT multiply multi-digit decimal numbers using the standard algorithm.

Daily review and revision: Ask students questions regarding multi-digit decimal numbers:

- What is the difference between these two numbers? 254 and 2.54?
- How do you say the number, 3.86?
- In the number 45.67, what digit is in the hundredths place?
- How does the placement of the decimal in this number change its value? 4.567 from 45.67?

Connections to learning objectives and approved curriculum:
Hook - Connections to real world: It's your birthday, and you are going skating! Entrance to the Skate Zone is $6.25 per person. Since it's your birthday, you decide to pay for the 11 guests. The cashier at the skating booth tells you the price is $6,875, but you only have $70 to spend. Disappointed, your friends begin walking back to the car. But, you know you have enough money, so you tell them to go back. What did you realize that your friends didn't realize?

Procedures/Instruction: Multiply as you would with a whole number. Count the number of decimal places in both factors. Then, place the decimal the same number of places in the quotient.
Example #1 - Model
Find the product: 3.86×5.5 – Teacher models for students how he multiplied the numbers. Teacher shows answer with correct placement of decimal and incorrect placement of decimal. Asks students why the placement of the decimal in the quotient matters.

Example #2 - Model
The sixth grade has won a pizza party. We need to purchase 12 pizzas. Each pizza costs $10.05. How much money do we need for the sixth grade party?
Asks: What is happening in this problem? What computation method do I need to use to solve the problem? Why? Is my answer reasonable? How do you know?

Example #3 - Guided Practice
Students work with teacher
39.75×0.981
Is your answer reasonable? How do you know?

Example #4 - Independent Practice
Independent 1 digit at a time, then check
Ms. Piccirilli went to the store to buy trail mix. Each pound of trail mix cost $5.11. When she put her bag of trail mix on the scale, it weighed 1.79 pounds. How much will Ms. Piccirilli have to pay for her entire box of trail mix?
Is your answer reasonable? How do you know?

Differentiation based on student needs:
Lower-level students: (1) Support with reasonability explanations; (2) Provide multiplication chart if necessary for support; (3) Use lower multiplication families so the focus is on multiplying multi-digit decimals correctly.

Medium -level students: (1) Option to use multiplication chart if necessary; (2) Students provide reasonability explanations; (3) Mix of easier and more difficult numbers (include some with multiple zeros); (4) Include some word problems.
Higher-level students: (1) Greater number of word problems; (2) Students provide reasonability explanations; (3) More challenging numbers with multiple zeroes.

High School English Lesson

Colorado Academic Standard: Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme. (CCSS: RL.9-10.3)

Instructional Objective: Analyze the virtues and vices of three (3) Greek goddesses and evaluate who would make the best ally.

Daily review and revision: Essential Question: Would you cross an immortal?

- Watch the short video *Defying The Gods*
- Discuss the following questions in small groups:
  - What were some of the virtues and vices of the gods featured in each myth?
  - What happened to the humans when they "crossed" the immortals?
  - Were the gods justified in their actions towards the humans or other gods?
  - Why did the Greeks include these stories in their myths?

Connections to learning objectives and approved curriculum:
High School Greek Mythology introduction to reading *The Iliad* by Homer. Connected to district adopted 9th Grade Unit of Study on Greek Mythology.

Prelude to the *The Judgment of Paris* (where a complex character interacts with other characters to advance the plot).

Review/read the origin myths for Athena, Hera, and Aphrodite in a book by Edith Hamilton on Greek Mythology.

- In a small group, analyze the virtues and vices of one of the Greek goddesses.
- Create a presentation with your group to make the case for why your goddess would make a good ally based on her virtues and vices.
- Present your group's case to the rest of the class.
- Listen carefully to the other presentations.
- Evaluate which of the goddesses would make the best ally, and vote your conscience.
- Write a brief analysis on which goddess you would chose and why.

Reflection and Closure:

Focus on the skill:

- How were you able to make an informed decision about which goddess would make the best ally?
- Why is analysis an important skill in our English class and beyond?

Looking Forward:

- Make a prediction for which goddess you think Paris will choose in the *Judgment of Paris.*
- Will Paris cross an immortal?
- What do you predict will be the outcome?

Differentiation based on student needs:

Differentiated content – students on and above grade-level reading will use a book by Edith Hamilton on Greek Mythology. Students below grade-level reading have the option to read the same origin myths at a middle-school level in the book by Bernard Evslin, *The Greek Gods*

Examples of Modifications of Content

Differentiation of content refers to a change in the material being learned by a student.

Concept	Pre-Assessment Results	Differentiation
Identifying fractions	A group of students is already capable of identifying fractions.	Students are excluded from the activity of identifying fractions and are taught to compare fractions.
Measurement	A group of students displays a lack of conceptual understanding for the size of an inch, foot, and yard. Another group of students displays a conceptual understanding and can measure items using inches, feet, and yards.	Students receive instruction on the size differences in an inch, foot, and yard. They engage in activities in which they categorize items according to these three measurements. Students apply these measuring skills to the measuring of perimeter.
Stated Main Idea	A group of students lacks the ability to differentiate between a detail and the main idea. Another group of students can readily identify the stated main idea of a passage.	Students are taught the difference between general and specific as a prerequisite skill to identifying the difference between a detail and the main idea. Students are taught to identify the main idea when it is not stated in the passage.
Circulatory System Labeling each part and explaining its function	Students with limited English and are unable to read and comprehend text. Another group of students can already label each part and explain its function.	Students with limited English are taught basic body parts such as heart, lungs, brain, etc. Students research impact of a heart disease on parts of the circulatory system.

Examples of Netiquette

Netiquette: Rules about the proper and polite way to communicate when using the Internet.

- Be polite. Do not write or send abusive messages to others.
- Be clear: Make sure the subject line (email) or title (web page) reflects your content.
- Use appropriate language. Do not swear, use vulgarities, or any other inappropriate language.
- Do not reveal your personal address, password, or phone numbers of other students.
- Do not use the network in such a way that you would disrupt the use of the network by other users (ex: downloading huge files during prime time; sending mass email messages; annoying other users using the talk or write functions).
- All communications and information accessible via the network should be assumed to be private property.
- Do not send SPAM: SPAM is posting or emailing unsolicited email, often advertising messages, to a wide audience (electronic junk mail).
- Don't forward chain letters: If you receive one, notify your teacher.
- Don't respond to "flames" or personal attacks: Notify your teacher for support.
- Obey copyright laws: Don't use others' images, content, etc., without permission. Don't forward email or use web site content without permission.

Reference:

Study Guides and Strategies. (n.d.). Retrieved October 4, 2013, from http://www.studygs.net/netiquette.htm

Examples of Ways Teachers May Differentiate in the Classroom

- Highlight and lowlight key information for specific students in material that they need to read.
- Cut articles apart giving a student one paragraph or section at a time.
- Create a "window" overlay that shows a student only part of what they are to read at a time.
- Create a poster/diagram/handout that visually organizes the key concepts.
- Provide leveled text that contains the same key/essential information.
- Provide books on tape including textbooks, etc.
- Provide a copy of the teacher's notes to students who are unable to transfer from a screen or board to paper. Or, students may just need to fill in parts of a graphic organizer as opposed to recording all information on their own.
- Allow students to provide symbolic representations of their knowledge.
- Give students only five (or any number) of math problems to work at a time or fold their paper so they only focus on a specific number of problems.
- Students or student groups may be given "task cards" with different tasks related to objective. Visual learners may receive "task cards" when whole group directions are given orally.
- When students engage in independent activities, teachers may provide "hint cards" for students who need additional support. The cards can be made available at different stages of the activity and as option for students to use.
- Provide headsets for students who need to work in silence or allow students to listen to soft music though use of a headset when working independently.
- "Double Dipping" - Students who are below grade level or struggle with specific concepts may rotate through two groups or rotate through the same center twice in order to have "extra" practice in a skill.
- Choice Boards - Choice boards are organizers that contain a variety of activities. Students can choose one or several activities to complete as they learn a skill or develop a product. Choice boards can be organized so that students are required to choose options that focus on several different skills.
- Graduated Rubrics - Graduated rubrics offer clear expectations for quality and levels of excellence to encourage high-ability learners. Rubrics may be differentiated based on students' academic levels and/or language proficiencies.
- Learning Centers/Stations - Learning centers/stations are areas in a classroom where students work on different tasks simultaneously in a classroom and then rotate through them to learn content/skills related to a topic. Students might skip stations if they know the material, or some stations might have tasks designed for advanced students only. Learning Centers are stations where students explore a topic but they stand alone. Students don't need to rotate through several Centers to master the content/skills related to the topic. Centers may have choices of activities for students to choose from based on their academic needs, interest and/or learning profiles.
- Learning Contracts - A learning contract is a written agreement between teacher and student that will result in students working independently. The contract helps students to set daily and weekly work goals and develop management skills. It also helps the teacher to keep track of each student's progress. The actual assignments will vary according to specific student needs.

- Tiered Assignments, Lessons, and Strategies -Assignments, activities, products, etc., that are designed to instruct and assess students on essential skills that are provided at different levels of complexity, abstractness, and open-endedness. The content and objective(s) are the same, but the process and/or product are varied according to the student's level of readiness.

Additional suggestions:

- When possible, students should be encouraged to move through content areas at their own pace. If they master a particular unit, they need to be provided with more advanced learning activities, not more of the same activity. Thematic, broad-based and integrated content, rather than single-subject areas in isolation, best serve their learning characteristics. In addition, such concept-based instruction expands opportunities to generalize and to integrate and apply ideas.

- Middle and secondary schools are generally organized to meet student needs within content areas. Providing an interdisciplinary approach is another way of modifying curriculum. Jacobs and Borland (1986) found that high-ability learners benefit greatly from curriculum experiences that cross or go beyond traditional content areas, particularly when they are encouraged to acquire an integrated understanding of knowledge and the structure of the disciplines.

References:

Jacobs and Borland (1986)

How Teachers Communicate Expectations to Students

Rosenthal (1974) and Good (1987) identified ways by which teachers communicate their expectations to students. Behaviors listed below are based on their findings.

When teachers display the behaviors listed below, they are more likely to communicate high expectations to their students.

Socio-emotional Behaviors: Respect and Support

- Smiling and nodding
- Friendliness
- Proximity to students – avoids seating lower performing students away from teacher and peers
- Frequent and positive teacher interaction with students
- Avoids criticism or favoritism
- Avoids showing displeasure publicly with students' work or oral responses

Output Behaviors: Response to Student Work and Responses

- Calls on a balance of students. Ensures all students have opportunities to participate in class discussions.
- Provides clues, and repeats or rephrases questions as needed.
- Provides wait time for students to process their answers and respond to teacher question.
- Provides academic feedback to students that informs of their progress and next steps.
- Communicates work may be difficult, but avoids apologizing when challenges occur.
- Displays enthusiasm for content taught. Avoids sending the message that some material may be viewed as boring.

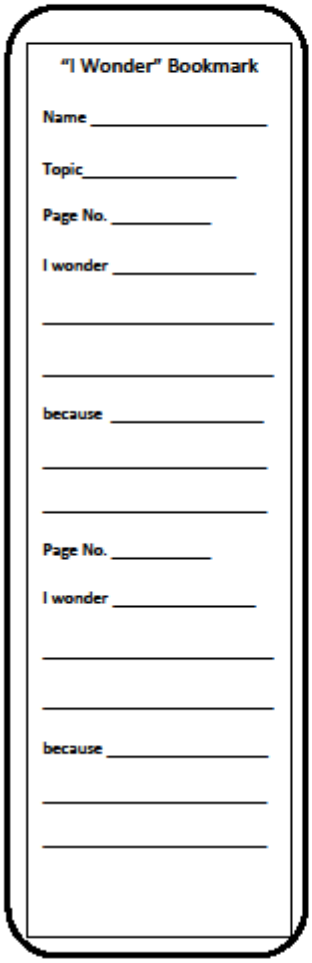
For additional information, reference the following:

http://www.education.com/reference/article/teachers-expectations-affect-learning/ By D. Stipek Pearson Allyn Bacon Prentice Hall Updated on Jul 20, 2010. Retrieved 10.14.13

References:

Good, T.L. "Two Decades of Research on Teacher Expectations: Findings and Future Directions." JOURNAL OF TEACHER EDUCATION 38 (1987): 32-47.

Rosenthal, R. (1974). *On the social psychology of the self-fulfilling prophecy: Further evidence for Pygmalion effects and their mediating mechanisms*. New York, NY: MSS Modular Publications.


"I Wonder" Bookmark
Name _____
Topic_____
Page No. _____
I wonder _____
_____
_____
because _____
_____
_____
Page No. _____
I wonder _____
_____
_____
because _____
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_____

Using Question Words

Who?	Asking about a person ***Who** is your friend?*
What?	Asking about an event or activity ***What** did you eat for dinner?* Asking about characteristics ***What** color is your favorite hat?*
When?	Asking about time ***When** do you go to bed?*
Where?	Asking about a place ***Where** do you live?*
How?	Asking about specifics such as one's reason or amounts ***How** do you bake a cake?* ***How** much money do you have?*
Why?	Asking about the reason for something ***Why** is the sky blue?*
Which?	Asking about a specific thing ***Which** hat do you like best?*

INTEREST INVENTORY

Name: _____ Date: _____

Please help me to get to know you better by completing the following sentences:

1. I collect…

2. My two favorite books are…

3. Books are…

4. My favorite character from a book is …

5. When I read, I…

6. I like to read about…

7. Libraries are…

8. In my free time, I …

9. School is …

10. My favorite activity in school is…

11. My favorite T.V. program is…

12. My favorite movie is…

13. My favorite song is…

14. My favorite singer or group is…

15. I like to listen to…

16. I like to play…

17. My hobbies are…

18. I like to write about…

19. The most interesting person whom I have met is…

20. My friends are…

Interest Survey on a Content Topic

Interest Questionnaire: What Do You Want to Learn About (Name of country or region)?
These are some of the topics we will be studying in our unit on (Name of country or region). It is important for me to know what your interests are related to this topic.

Please number each item from 1 to 8 with 1 being what you are most interested in learning about and 8 being what you are least interest in learning about.

___geography

___government (laws)

___agriculture (foods they grow and eat)

___architecture (buildings)

___music, art and literature

___sports

___religion

___roles of men, women, and children

Learning Objectives versus Activity Statements

Level	Subject	Learning Objective	Activity Statement
Early childhood	Language Arts	Students will apply knowledge of phonemes to sound out words that are not in their sight vocabulary.	Students will observe the teacher sounding and blending a word.
Early childhood	Math	Students will identify objects using their ordinal position up to 5th place.	Students will play a game in which they line up based on the position they are assigned.
Elementary	Language Arts	Students will be able to define nouns and verbs and explain their purpose.	Students will highlight nouns and verbs in simple sentences, and write their own sentences using nouns and verbs correctly.
Elementary	Language Arts	Students will compare and contrast two versions of the same fairy tale.	Students will complete a Venn diagram after reading the African and Korean versions of Cinderella.
Elementary	Music	Students will identify the beat in a song.	Students will listen to songs and clap the beat.
Middle school	Mathematics	Students will be able to solve equations with one variable.	Students will practice solving 10 equations in cooperative groups.
Middle school	Science	Students will explain the relationship between the earth and the moon.	Students will watch a video on the relationship between the earth and the moon and the place of these bodies in the solar system.
Middle school	Art	Students will be able to describe the characteristics of Aboriginal art.	Students will look at different types of Aboriginal art.
High school	Social Studies	Students will define characteristics of the barter system.	Students will participate in a bartering activity.
High school	Math	Students will solve polynomials requiring addition and subtraction.	Students will participate in an online interactive math game.
High school	Language Arts	Students will be able to explain the elements of effective persuasive writing and apply these elements in order to evaluate documents.	Students will read primary sources representative of persuasive writing.

References:

Marzano, R. J. (2007). *The art and science of teaching: A comprehensive framework for effective instruction* (p. 17). Alexandria, VA: Association for Supervision and Curriculum Development.

Levels of Cognitive Demand

Lower-level demands (memorization):

- Involve either producing previously learned facts, rules, formulas, or definitions or committing facts, rules, formulas, or definitions to memory.
- Cannot be solved using procedures because a procedure does not exist or because the time frame in which the task is being completed is too short to use a procedure.
- Are not ambiguous. Such tasks involve the exact reproduction of previously seen material and what is to be reproduced is clearly and directly stated.
- Have no connection to the concepts or meanings that underlie the facts, rules, formulas, or definitions being learned or reproduced.

Lower-level demands (procedures without connections):

- Are algorithmic. Use of the procedure either is specifically called for or is evident from prior instruction, experience, or placement of the task.
- Require limited cognitive demand for successful completion. Little ambiguity exists about what needs to be done and how to do it.
- Have no connection to the concepts or meanings that underlie the procedure being used.
- Are focused on producing correct answers instead of on developing mathematical understanding.
- Require no explanations or explanations that focus solely on describing the procedure that was used.

Higher-level demands (procedures with connections):

- Focus students' attention on the use of procedures for the purpose of developing deeper levels of understanding of mathematical concepts and ideas.
- Suggest, explicitly or implicitly, pathways to follow that are broad general procedures, and that have close connections to underlying conceptual ideas, as opposed to narrow algorithms that are opaque with respect to underlying concepts.
- Usually are represented in multiple ways, such as visual diagrams, manipulatives, symbols, and problem situations. Making connections among multiple representations helps to develop meaning.
- Require some degree of cognitive effort. Although general procedures may be followed, they cannot be followed mindlessly. Students need to engage with conceptual ideas that underlie the procedures to complete the task successfully and that develop understanding.

Higher-level demands (doing mathematics):

- Require complex and non-algorithmic thinking-a predictable, well-rehearsed approach, or pathway is not explicitly suggested by the task, task instructions, or a worked-out example.
- Require students to explore and to understand the nature of mathematical concepts, processes, or relationships. Demand self-monitoring, or self-regulation of one's own cognitive processes.
- Require students to access relevant knowledge and experiences, and make appropriate use of them in working through the task.

- Require students to analyze the task, and actively examine task constraints that may limit possible solution strategies and solutions.
- Require considerable cognitive effort, and may involve some level of anxiety for the student because of the unpredictable nature of the solution process required.

References:

These characteristics are derived from the work of Doyle on academic tasks (1988) and Resnick on high-level-thinking skills (1987), the *Professional Standards for Teaching Mathematics* (NCTM 1991), and the examination and categorization of hundreds of tasks used in QUASAR classrooms (Stein, Grover, and Henningsen 1996; Stein, Lane, and Silver 1996).

Listening Skills

Active listening is a process that includes three steps:

- Hearing: Hearing just means listening in order to know what the speaker is saying. When students can repeat what the speaker has said, then they have demonstrated hearing.

- Understanding: The next part of listening happens when one takes what they have heard and processes it in order to make sense of what the speaker said. When students can accurately paraphrase or summarize what the speaker has said, they demonstrate understanding.

- Evaluating: After hearing and understanding what the speaker has said, then the listener thinks about whether it makes sense or if he/she believes or agrees with that the speaker said. When students can build on the speaker's words or state why they agree or disagree, they demonstrate evaluating. Students may also ask questions for further clarification or to gain additional information.

Teaching students to be active listeners:

- Face the speaker and give the person speaking your full attention.
- Allows the speaker to finish before you begin to comment or ask a question.
- Listen for main ideas. The main ideas are the most important points the speaker wants to get across. They may be mentioned at the start or end of a talk and repeated a number of times. Pay special attention to statements that begin with phrases such as "My point is..." or "The thing to remember is..."
- Ask questions or provide feedback. When you do this, sit up straight and look directly at the speaker. Allow yourself time to process your comments, either mentally or though writing, so you can ensure they are related to the speaker's topic and are articulated in a clear and concise manner.

References:

Listening skills. (2005). Retrieved from http://www.infoplease.com/homework/listeningskills1.html#ixzz2yOhmxVOt

How Many Ways Are You Smart?

Multiple Intelligence Survey for Elementary Students

Directions: Fold the paper vertically on the dark line so that the columns with the eight "multiple intelligences" are hidden. Read each statement below, and place a checkmark next to each item that is true about you. Then, unfold the paper, and circle the X in each row that you checked. Write the total number in each column at the bottom of the paper. How many ways are you smart?

Directions: Fold the paper vertically on the dark line so that the columns with the eight "multiple intelligences" are hidden. Read each statement below, and place a checkmark next to each item that is true about you. Then, unfold the paper, and circle the X in each row that you checked. Write the total number of X's circled in each column at the bottom of the paper. How many ways are you smart?		Nature Smart	Number/Logic Smart	Word Smart	Music Smart	Picture Smart	Body Smart	People Smart	Self Smart
I enjoy singing, and I sing fairly well.					X				
I enjoy crossword puzzles and word games.				X					
I'm good at solving jigsaw puzzles.						X			
I can read maps easily.						X			
I learn best when I can talk over a new idea.								X	
Picture, line, and bar graphs are easy to understand.						X			
I like to listen to music in my free time.					X				
I get along well with different types of people.								X	
I like writing about my thoughts and feelings.									X
Protecting the environment is very important to me.		X							
I enjoy caring for pets and other animals.		X							
I like drama and acting things out.							X		
I'm good at writing stories.				X					
I can understand difficult math ideas easily.			X						
I play a musical instrument or would like to.					X				
People tell me I'm good at sports or dancing.							X		
I'm good at figuring outs patterns.			X						
My best way to learn is by doing hands-on activities.							X		
I like spending time by myself.									X
I find that I'm often helping other people.								X	
I'm naturally good at taking care of plants.		X							
I enjoy solving problems and brainteasers.			X						
Having quiet time to think over ideas is important to me.									X
I enjoy reading for pleasure.				X					
Totals									

Reference:

Candler, L. (n.d.). Multiple Intelligence Resources. Retrieved from http://www.lauracandler.com/strategies/multipleintelligences.php

Multiple Intelligence Survey
©Walter McKenzie

Complete each section by placing a check next to each statement you feel accurately describes you. If you do not identify with a statement, leave the line blank. Then, total the number of checks in each section.

Section 1
____ I enjoy categorizing things by common traits
____ Ecological issues are important to me
____ Classification helps me make sense of new data
____ I enjoy working in a garden
____ I believe preserving our National Parks is important
____ Putting things in hierarchies makes sense to me
____ Animals are important in my life
____ My home has a recycling system in place
____ I enjoy studying biology, botany, and/or zoology
____ I pick up on subtle differences in meaning

____ Total for Section 1

Section 2
____ I easily pick up on patterns
____ I focus in on noise and sounds
____ Moving to a beat is easy for me
____ I enjoy making music
____ I respond to the cadence of poetry
____ I remember things by putting them in a rhyme
____ Concentration is difficult for me if there is background noise
____ Listening to sounds in nature can be very relaxing
____ Musicals are more engaging to me than dramatic plays
____ Remembering song lyrics is easy for me

____ Total for Section 2

Section 3
____ I am known for being neat and orderly
____ Step-by-step directions are a big help
____ Problem solving comes easily to me
____ I get easily frustrated with disorganized people
____ I can complete calculations quickly in my head
____ Logic puzzles are fun
____ I can't begin an assignment until I have all my "ducks in a row"
____ Structure is a good thing
____ I enjoy troubleshooting something that isn't working properly
____ Things have to make sense to me or I am dissatisfied

____ Total for Section 3

Section 4
____ I learn best interacting with others
____ I enjoy informal chat and serious discussion
____ The more the merrier
____ I often serve as a leader among peers and colleagues
____ I value relationships more than ideas or accomplishments
____ Study groups are very productive for me
____ I am a "team player"
____ Friends are important to me
____ I belong to three clubs or organizations
____ I dislike working alone

____ Total for Section 4

Section 5
____ I learn by doing
____ I enjoy making things with my hands
____ Sports are a part of my life
____ I use gestures and non-verbal cues when I communicate
____ Demonstrating is better than explaining
____ I love to dance
____ I like working with tools
____ Inactivity can make me more tired than being very busy
____ Hands-on activities are fun
____ I live an active lifestyle

____ Total for Section 5

Section 6
____ Foreign languages interest me
____ I enjoy reading books, magazines, and web sites
____ I keep a journal or diary
____ Word puzzles like crosswords or jumbles are enjoyable
____ Taking notes helps me remember and understand
____ I faithfully contact friends through letters, emails, or text messages
____ It is easy for me to explain my ideas to others
____ I write for pleasure
____ Puns and anagrams are fun
____ I enjoy public speaking and participating in debates

____ Total for Section 6

Section 7
____ My attitude effects how I learn
____ I like to be involved in causes that help others
____ I am keenly aware of my moral beliefs
____ I learn best when I have an emotional attachment to the subject
____ Fairness is important to me
____ Social justice issues interest me
____ Working alone can be just as productive as working in a group
____ I need to know why I should do something before I agree to do it

____ When I believe in something I give more effort towards it
____ I am willing to protest or sign a petition to right a wrong

____ Total for Section 7

Section 8
____ I can visualize ideas in my mind
____ Rearranging a room and redecorating are fun for me
____ I enjoy creating my own works of art
____ I remember better using graphic organizers
____ I enjoy all kinds of entertainment media
____ Charts, graphs, and tables help me interpret data
____ A music video can make me more interested in a song
____ I can recall things as mental pictures
____ I am good at reading maps and blueprints
____ Three dimensional puzzles are fun

____ Total for Section 8

Review your totals for each Section. In which sections did you place the most checks? Based on your responses, your intelligence profile may be as follows:

If the majority of your checks are in:

Section 1 – Naturalist Intelligence
Section 2 – Musical Intelligence
Section 3 – Logical-Mathematical Intelligence
Section 4 – Interpersonal Intelligence
Section 5 – Bodily-Kinesthetic Intelligence
Section 6 – Verbal-Linguistic Intelligence
Section 7 – Intrapersonal Intelligence
Section 8 – Visual-Spatial Intelligence

Which intelligences do you display the most? What does this mean for you as a learner?

Remember:
Everyone has some elements of each intelligence type!
You can strengthen an intelligence!
Multiple Intelligences are meant to empower people, not label people!

Purposeful Use of Visuals

Visuals that are accessible to the teacher and students support students in becoming independent learners. They can allow students to "see" the steps or important concepts associated with the learning objective and serve as a scaffold for student learning. Visuals can also provide a structure for students to organize their thoughts and work. Visuals and/or graphic organizers utilized by the teacher during instruction should mirror the visuals and/or graphic organizers students are expected to utilize. When this occurs, visuals can become an effective tool for communicating expectations for student learning, as well as student behavior.

Benefits from Use of Visuals:

- Recognizes that students live in a visual/multimedia world
- Provides multisensory approach to teaching and learning
- Increases students' attention as they have something on which to focus
- Allows for content to be presented in a more dramatic, personalized manner
- Increases efficiency of content presentation and communication of expectations
- Provides support for lower level readers and visual learners
- Increases student independence as students may refer to visuals for support and directions
- Permits students to see the whole picture of a concept, as well as individual steps or skills
- Increases learning retention of new concepts or skills

Creating and Utilizing Visuals:

- Utilize font and size that can be read by all students
- Place at appropriate height for all students to read
- Use colors that can be seen from any place in the classroom and are easily read
- Align vocabulary and examples on visuals to lesson objectives
- Change as necessary when teaching new concepts or skills
- Utilize graphics that support text by combining the use of graphics and text
- Refer to them during instruction in order to set the expectation that visuals are for learning and should be utilized by students

Research on Differentiation of Content

What is content?
Content can be described as the knowledge, skills, and attitudes students need to learn.

Differentiation of content is guided by the premise that teachers should maximize student potential, not simply bring students to an externally established norm on a test.

What is needed for teachers to differentiate content?
Differentiation of content requires teachers to have clear learning objectives that are based on content standards, as well as knowledge of their students. Teachers must also continually monitor student proximity to learning objectives throughout the learning cycle. The teacher must know what each student knows and is able to do at a given moment and modifications that are needed to ensure student mastery.

How can teachers differentiate content?

- Acceleration- Providing the opportunity for students to move more rapidly through a particular curricular sequence without regard to age or setting.
- Compacting- This strategy encourages teachers to assess students before beginning a unit of study or development of a skill. Students who do well on the pre-assessment do not continue work on what they already know. The teacher eliminates work and/or instruction for content that has already been mastered.
- Variety-Ideas and content areas should be extensions of the regular curriculum.
- Reorganization- Selecting new arrangements of content (e.g., functional similarities, categorical groups, descriptive similarities) in place of the typical chronological organization.
- Flexible pacing- Allowing for individual characteristics to determine the pace students progress through the content.
- Use of more advanced or complex concepts and materials- Posing more challenging questions or situations that force the learner to deal with the intricacies of the content.
- Use of abstractions-Going beyond the facts and the obvious to the conceptual framework, underlying ideas, symbolism, and hidden meaning of the content.

Additional suggestions:

- When possible, students should be encouraged to move through content areas at their own pace. If they master a particular unit, they need to be provided with more advanced learning activities, not more of the same activity. Thematic, broad-based, and integrated content, rather than single-subject areas in isolation, best serve their learning characteristics. In addition, such concept-based instruction expands opportunities to generalize and to integrate and apply ideas.
- Middle and secondary schools are generally organized to meet student needs within content areas. Providing an interdisciplinary approach is another way of modifying curriculum. Jacobs and Borland (1986) found that high ability learners benefit greatly from curriculum experiences that cross or go beyond traditional content areas, particularly when they are encouraged to acquire an integrated understanding of knowledge and the structure of the disciplines.

Why should teachers differentiate content?

According to the proponents of differentiation, the principles and guidelines are rooted in years of educational theory and research. For example, differentiated content adopts the concept of "readiness." That is, the difficulty of skills taught should be slightly in advance of the child's current level of mastery. Psychologists tell us that a student learns only when a task is a little too hard for that student. When a student can do work with little effort, and virtually independently, that student is not learning, but rather rehearsing the known. When a student finds a task beyond his or her reach, frustration, not learning, is the result. Only when a task is a bit beyond the student's comfort level, and the student finds a support system to bridge the gap, does learning occur. This is grounded in the work of Lev Vygotsky (1978) and the zone of proximal development (ZPD), the range at which learning takes place. The classroom research by Fisher at al. (1980) strongly supports the ZPD concept. The researchers found that in classrooms where individuals were performing at a level of about 80% accuracy, students learned more and felt better about themselves and the subject area under study (Fisher, 1980 in Tomlinson, 2000).

Brain research suggests that when tasks are too hard for a learner, the brain "downshifts" to the limbic area of the brain that does not "think," but rather is designed to protect an individual from harm. Also, when tasks are too easy for learners, those learners do not show thoughtful brain activity, but rather display patterns that look more like the early stages of sleep. Only when tasks are moderately challenging for an individual does the brain "think" in a way that prompts learning.

References:

Bosch, N. (08, September 19). Modifying content, process, and product. Retrieved from http://adifferentplace.org/modifying.htm

Hall, T., Strangman, N., & Meyer, A. (2009, November 2). Differentiated Instruction with UDL | National Center on Accessible Instructional Materials. Retrieved from http://aim.cast.org/learn/historyarchive/backgroundpapers/differentiated_instruction_udl#.U12CPvldWSo

Theroux, P. (2011, November 16). Technology Articles. Retrieved from http://members.shaw.ca/priscillatheroux/differentiating.html

Tomlinson, C. A., et. al.(2003) Differentiating Instruction in Response to Student Readiness, Interest, and Learning Profile in Academically Diverse Classrooms: A Review of Literature. *Journal for the Education of the Gifted,* 27, 119-45.

Research on the Use of Formative Assessments

Informative assessment really isn't about the grade book. - Carol Ann Tomlinson

Formative assessments are ongoing assessments that occur during the learning process. Because they occur during the learning process, they provide information teachers can use to make instructional decisions, in-the-moment adjustments, and provide students with actionable feedback. The results from formative assessments are used to modify and validate instruction. They are administered for the purpose of increasing student learning.

Assessment for learning is based on five key factors: (Black and Wiliam, 1998)(Hattie, 2012)

- Students are actively involved in their own learning processes.
- Effective feedback is provided to students.
- Instruction is adapted in response to assessment results.
- Students are able to perform self-assessments.
- The influence of assessment on students' motivation and self-esteem is recognized.

Assessment for learning can take many different forms in the classroom. However, it should consistently support students in answering these three questions related to student outcomes for a lesson:

- Where am I going?
- Where am I now?
- How can I close the gap?

(Atkin, Black, & Coffey, 2001)

Formative assessments not only supply the evidence a teacher needs in order to make necessary instructional adjustments, they supply the evidence students need in order to make necessary adjustments in how they are trying to learn something. Formative assessments, then, can help both teachers teach better and learners learn better. (Popham, 2008)

The use of formative assessments can result in a deeper engagement of students in the learning process. When students are provided information on their progress towards mastery of learning objectives, they can begin to learn how to learn. They can grow into self-aware learners who can explain what they did, what they need to do, and where they are in the learning process. Students who take charge of their own learning become self-regulated and more independent learners. They can also become more motivated to take risks when content or activities become more difficult and challenging.

References:

Atkin, J. M., Black, P. J., & Coffey, J. (2001). *Classroom assessment and the National Science Education Standards*. Washington, DC: National Academy Press.

Black, P., & Wiliam, D. (1998). Assessment and Classroom Learning. *Assessment in Education: Principles, Policy & Practice, 5*(1), 7-74. doi: 10.1080/0969595980050102

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. London, England: Routledge.

Popham, W. J. (2008). *Transformative assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.

Sentence Starters for Teaching Students Accountable Talk

- I agree/disagree with that, because ____.
- I want to add to what _(name)__ said about___.
- Based on my evidence, I think ___.
- I am not clear on what you mean by ___.
- I disagree with the use of that evidence, because ____.
- A question I have is _____.
- An example of ____ is _____.
- Your evidence is the same/different, because ___.
- The relationship between ____ and ____ is _____.
- This reminds me of _____.
- I predict _____, because _____.
- I understand _____.
- When we _____, it helped me understand _____.
- The big idea is _____.
- I observed _____.
- I'm confused by _____.
- To expand on what ____ said _____.

Standards for Mathematical Practice
from
The Common Core State Standards for Mathematics

The Standards for Mathematical Practice have been included in the Nature of Mathematics section in each Grade Level Expectation of the Colorado Academic Standards. The following definitions and explanation of the Standards for Mathematical Practice from the Common Core State Standards can be found on pages 6, 7, and 8 in the Common Core State Standards for Mathematics. Each Mathematical Practices statement has been notated with (MP) at the end of the statement.

Mathematics - Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies," with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report Adding It Up: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently, and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1. Make sense of problems and persevere in solving them.
Mathematically proficient students start by explaining to themselves the meaning of a problem, and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution, and plan a solution pathway, rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress, and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs, or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems, and identify correspondences between different approaches.

2. Reason abstractly and quantitatively.
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring 2 complementary abilities to bear on problems involving quantitative relationships: 1) the ability to decontextualize-to abstract a given situation and represent it symbolically, and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents, and 2) the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand, considering the

units involved, attending to the meaning of quantities, not just how to compute them, and knowing and flexibly using different properties of operations and objects.

3. Construct viable arguments and critique the reasoning of others.
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures, and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and-if there is a flaw in an argument-explain what it is. Elementary students can construct arguments using concrete referents, such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4. Model with mathematics.
Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event, or analyze a problem in the community. By high school, a student might use geometry to solve a design problem, or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know, are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation, and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts, and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation, and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5. Use appropriate tools strategically.
Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained, and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation, and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore, and deepen their understanding of concepts.

6. Attend to precision.
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others, and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school, they have learned to examine claims and make explicit use of definitions.

7. Look for and make use of structure.
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that 3 and 7 more is the same amount as 7 and 3 more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure, and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview, and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square, and use that to realize that its value cannot be more than 5 for any real numbers x and y.

8. Look for and express regularity in repeated reasoning.
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content
The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction. The Standards for Mathematical Content are a balanced combination of procedure, and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices. In this respect, those content standards which set an expectation of understanding are potential "points of

intersection" between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Reference:

Colorado Standards. (2013, September 18). Retrieved from http://www.cde.state.co.us/standardsandinstruction/coloradostandards

Strategies for Creating a Sense of Community

- Photo Bulletin Board - Create a space in the classroom for displaying pictures of students involved in classroom activities, at play, on field trips, etc. This can be an effective way to celebrate students' accomplishments and their shared experiences.

- Student-Created Class Rules - Students may share what they view as important rules for maintaining a safe learning environment for everyone. If needed, the teacher may group students' ideas into three or four rules that become the classroom contract for behavior. Students may also sign the contract acknowledging their ownership and responsibility for adhering to the rules.

- Class Meetings - The teacher and students discuss topics of concern such as bullying, timelines for upcoming assignments, the daily schedule, or organizational skills. Class meetings can be an opportunity to collectively share and problem solve concerns of the class. They can also be an opportunity to share accomplishments of the class. Progress towards class goals can be celebrated, as well as next steps identified.

- Student Work Displays - Student work is displayed in a manner that celebrates student learning. To promote a sense of community, a pad of sticky notes can be available near the display for students to leave notes of praise or encouragement to their peers. This practice can also be open to other teachers, administrators, and parents.

- Student Jobs - Student jobs can support student ownership and cooperation in the classroom. When explaining the expectations, the teacher should emphasize that each member of the classroom is dependent on everyone performing their job effectively. Students can learn that the whole is dependent on the parts, or members, doing their best.

- Notes of Appreciation - Students can be encouraged to write notes of appreciation to their peers for acts of kindness and support. These notes may be shared during a class meeting or deposited in a class mailbox and distributed by the teacher or student postmaster.

- Student Collaboration - Provide opportunities for students to work together and have them reflect on these two questions: "What did you do well today?" and "How did (student's name) help you today?"

- Zero-indifference Policy - Address bullying and the use of unkind words when they occur. Be clear about what is acceptable and supportive of the classroom community.

Reference:

Sapon-Shevin, M. (2008). Learning in an inclusive community. *Educational Leadership, 66*, 49-53.

Strategies for Employing Numeracy across Content Areas

- Model how mathematics are used in your professional life, as well as in the content taught.
- Provide time in class for students to work on mathematics that relate to learning objectives for the content area.
- Incorporate logical reasoning and problem-solving opportunities, as they relate to the content.
- Provide resources for students such as calculators, rulers, scale models, graphic organizers, charts, graphs, statistical data, etc., to enable students to experience mathematical connections to various topics within the content.
- Provide examples of mathematical connections to the content by sharing newspaper articles, magazine articles, and professional journal articles that show how mathematics is utilized in the academic discipline.
- Allow students choice about their completion of assignments that can incorporate mathematics and problem solving.
- Require students to incorporate data and data analysis as part of their writing, when appropriate.
- Provide students with feedback related to mathematical reasoning, when appropriate.
- Focus on improving each student's knowledge and ability to apply mathematical thinking and reasoning skills across content areas, rather than just developing computational skills in isolation.
- Avoid sharing any personal "math phobias" or a personal dislike of mathematics. Educators never boast of being illiterate, yet we often freely share that we are innumerate!

Reference:

Source: Adapted from SREB, 2003

Strategies for Forming Groups

1. Grouping Cards

Determine the number of students in the class, and how many different groupings you want throughout the lesson. For example, in a class of twenty, one activity may call for four groups of five; another, five groups of four; still another, six groups of three with two observers.

Code these groups using a colored dot (red, blue, green, and yellow for four groups), decorative stickers (different stickers in a common theme for five groups, such as lions, monkeys, tigers, giraffes, and elephants), and a number (1 through 6 for six groups). Randomly place a number, a colored dot, and a sticker on a card for each participant and include the card in the participant's materials. When you are ready to form your groups, identify which code you are using and direct the participants to join their groups in a designated place. Students will be able to move quickly to their groups, saving time and eliminating confusion. You may want to post signs indicating group meeting areas to make the process even more efficient.

2. Playing Cards

Use a deck of playing cards to designate groups. For example, use jacks, queens, kings, and aces to create four groups of four. Use additional number cards, if necessary, to accommodate a larger group. Shuffle the cards and deal one to each student, then direct the students to locate others with similar cards and form a group.

3. Draw Numbers

Determine the number and size of the groups you want to create, put numbers on individual slips of paper, and place them in a box. Students draw a number from the box indicating which group number they belong to. For example, if you want four groups of four, you would have sixteen slips of paper with four each of the numbers 1 through 4.

4. Candy Favors

Give each student a wrapped sugarless candy of a different flavor to indicate groups. For example, your groups may be categorized as lemon, butterscotch, cherry, and mint.

5. Choose Like Items

Select toys of a common theme to indicate groups. For example, you might choose transportation and use cars, airplanes, boats, and trains. Each student would draw a toy from a box and locate others with the same toy to form a group.

6. Participant Material

You can code student materials using colored paper clips, colored handouts, or stickers on folders or tent cards to predetermine groupings.

Source: Active Training, 26 Linden Lane, Princeton, NJ 08540 (800-924-8157)

Cooperative Learning Structures

Most of these structures are developed by Dr. Spencer Kagan and his associates at Kagan Publishing and Professional Development. For resources and professional development information on Kagan Structures, please visit: www.KaganOnline.com

1. Jigsaw - Groups with five students are set up. Each group member is assigned some unique material to learn and then to teach to his group members. To help in the learning, students across the class, working on the same sub-section, get together to decide what is important and how to teach it. After practice in these "expert" groups, the original groups reform, and students teach each other. (Wood, p. 17)

2. Think-Pair-Share - Involves a three-step cooperative structure. During the first step, individuals think silently about a question posed by the instructor. Individuals pair up during the second step, and exchange thoughts. In the third step, the pairs share their responses with other pairs, other teams, or the entire group.

3. Three-Step Interview (Kagan) - Each member of a team chooses another member to be a partner. During the first step, individuals interview their partners by asking clarifying questions. During the second step, partners reverse the roles. For the final step, members share their partner's response with the team.

4. Round-Robin Brainstorming (Kagan) - Class is divided into small groups (4 to 6) with one person appointed as the recorder. A question is posed with many answers, and students are given time to think about answers. After the "think time," members of the team share responses with one another round-robin style. The recorder writes down the answers of the group members. The person next to the recorder starts, and each person in the group (in order) gives an answer until time is called.

5. Three-minute review - Teachers stop any time during a lecture or discussion and give teams three minutes to review what has been said, ask clarifying questions, or answer questions.

6. Numbered Heads Together (Kagan) - A team of four is established. Each member is given numbers of 1, 2, 3, and 4. Questions are asked of the group. Groups work together to answer the question so that all can verbally answer the question. Teacher calls out a number (2) and each 2 is asked to give the answer.

7. Team Pair Solo (Kagan) - Students do problems first as a team, then with a partner, and finally on their own. It is designed to motivate students to tackle and succeed at problems which initially are beyond their ability. It is based on a simple notion of mediated learning. Students can do more things with help (mediation) than they can do alone. By allowing them to work on problems they could not do alone, first as a team and then with a partner, they progress to a point they can do alone that which at first they could do only with help.

Strategies for Managing the Use of Computers in the Classroom

- Type directions for frequently used computer operations (opening programs, inserting clip art, printing documents, etc.) on index cards. Laminate the cards and connect them with a circle ring. Place a set next to each computer.

- Instruct students to keep monitors turned off when directions are being given to ensure students are focused and tracking the speaker. If needed, tape a sign that reads, PLEASE WAIT FOR INSTRUCTIONS, to the top of each monitor. After expectations have been communicated, students flip the sign to the back of the monitor and begin work.

- Assign students leadership roles.
  - Materials Manager: Distributes materials needed for tasks.
  - Technical Manager: Helps resolve printer and computer issues.
  - Close-out Manager: Ensures programs are closed, sound is turned down, work areas are neat, keyboards are pushed in and mice are straight.

- Keep a colored plastic cup, or other item, at each computer. When students need assistance, they place the cup upside down as a visible sign that help is needed.

- Early Childhood students: Place different colored sticker dots on the left and right bottom corners of each monitor. Use these to indicate which side of the screen you are referencing when giving directions. Colored stickers may also be used to designate whose turn it is when students share a computer.

Strategies to Help Students Learn to Use Feedback

- Model giving and using feedback yourself.
- Teach students self- and peer-assessment skills to:
  - Teach students the source of feedback.
  - Increase students' interest in feedback because it is "theirs".
  - Answer students' questions regarding their work or responses.
  - Develop self-monitoring skills, necessary for using any feedback.
- Be clear about the learning objective and criteria for mastery.
  - Create assessments with value and interest aligned to learning objectives.
  - Explain the purpose of assessments.
  - Provide clear directions for completing tasks and assessments.
  - Explain rubrics or scoring guides/checklists to students.
- Design lessons in which students use feedback on previous work to produce higher-quality work.
  - Provide opportunities to revise work or correct errors.
  - Assign new but similar tasks for the same learning objective.
  - Help students make connections between the feedback they received and applied to the improvement in their work.

Reference:

Brookhart, S. M. (2008). Feedback that fits. *Educational Leadership, 65*(4), 54-59. Retrieved from http://www.ascd.org/publications/educational-leadership/dec07/vol65/num04/Feedback-That-Fits.aspx

Student Bill of Rights

Robert Marzano recommends establishing documents such as the examples below to support students in developing and maintaining respectful relationships. Teachers may adapt these for their classrooms, or use as examples to support students in development of shared statements.

Student Bill of Assertive Rights

- I have the right to judge my own behavior and be responsible for it. I don't have the right to judge the behavior of others.
- I have the right to be treated with respect. I don't have the right to treat others disrespectfully.
- I have the right to express my feelings in an assertive way.(Marzano et al., 2005, p. 121)

Shared Statement of Student Responsibility: Whole Class

- We are responsible for ourselves. For example, we are responsible for our thoughts, feelings, behavior, physical health, possessions, and goals.
- We are responsible for how we treat others. In particular, we are responsible for what we say and what we do to and with others.

Students as Individuals:

- I am responsible for me-for my feelings, my actions, my words, and my experience of my life.
- Other people are responsible for themselves-for their feelings, actions, words, and experience of life.
- I am 100% responsible for the consequences of my feelings, thoughts, actions, and words. Dealing with the consequences and rewards teaches me how to live in the world.(Marzano et al., 2005, p. 124)

Reference:

Marzano, R. J., Gaddy, B. B., Foseid, M. C., Foseid, M. P., & Marzano, J. S. (2005). *A handbook for classroom management that works*. Alexandria, VA: Association for Supervision and Curriculum Development.

Student Outcomes

Prior to teaching any lesson, teachers must know the learning outcomes for their students and the criteria for success. Until teachers have articulated, to themselves and to their students, the expectations for learning and how mastery will be measured, instruction may be misaligned to lesson goals, and assessments may provide limited information on actual student progress towards these goals.

Creating Explicit Student Outcomes:

- Student outcomes must be worthwhile and represent learning essential to a discipline as well as high-level learning for all students.
- Student outcomes must be clear and stated in terms of student learning rather than student activity: "What will students *learn* as a result of the instructional engagement?" Not, "What will students do?"
- Student outcomes must be measurable. They must be stated in clear language that permits viable methods of evaluation and the establishment of performance criteria. (Danielson, 1996)

Benefits of Explicit Student Learning Outcomes:

- Teachers are able to plan instruction aligned to lesson outcomes.
- Teachers are able to utilize student work (oral and written) to make instructional decisions.
- Students' understanding and engagement in learning increases when they are clear on the expectations for their learning.

Reference:

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Teaching Empathy and Respect through Literature

Early Childhood

- *Bully* by Laura Vaccaro Seeger
- *Good News Bad* News By Jeff Mack
- *Is There Really A Human Race?* by Jamie Lee Curtis
- *Sam's New Friend* by Theirry Robberecht
- *Arnie & The New Kid* by Nancy Carlson
- *Yoko* by Rosemary Wells
- *My Many Colored Days* by Dr. Seuss

Elementary

- *Charlotte's Web* by E.B. White
- *Ramona the Pest* by Beverly Cleary
- *One Day and One Amazing Morning on Orange Street* by Joanne Rocklin
- *Prairie Evers* by by Ellen Airgood
- *Junonia* by Kevin Henkes
- *Spaghetti In A Hot Dog Bun* by Maria Dismondy
- *The Potato Chip Champ* by Maria Dismondy
- *Looking After Louis* by Lesley Ely
- *Pricilla McDoodlenutDoodleMcMae Asks Why?* By Janet Mary Sinke
- *Wilfred Gordon McDonald Partridge* by Mem Fox
- *The Hundred Dresses* by Eleanor Estes
- *The Ragcoat* by Lauren Mills

Middle School

- *Freak the Mighty* by Rodman Philbrick
- *Mockingbird* by Kathryn Erskine

High School

- *To Kill a Mockingbird* by Harper Lee
- *Dear Bully: 70 Authors Tell Their Stories* by Carrie Jones, Megan Kelley Hall
- *The Grapes of Wrath* by John Steinbeck

Teaching Students How to Ask Questions

Among the many higher-level thinking skills our students need is the skill of generating thoughtful questions. The ability to routinely generate mental questions while reading, listening, or viewing something not only boosts attention and alertness, but also strengthens comprehension (Duke & Pearson, 2002). How else can individuals gain, analyze, and integrate new information unless they ask questions that force them to do these things? When students ask themselves questions about information they are hearing or reading, they pay more attention to the information, self-monitor, and are more likely to be actively engaged in the learning process.

Although students ask questions throughout the school day, research shows that the majority of questions are to seek clarification on procedural matters and not questions that further their learning. What teachers need to teach students to do is to generate questions that prompt their thinking, provide purpose for their learning, and support them in thinking about their own metacognitive processes.

Why is being an effective questioner essential for development of college- and career-readiness skills?

- Students attain significantly higher levels of thinking when they are encouraged to develop skills in generating critical and creative questions and when they are provided opportunities for dialogue with classmates about the questions posed and conclusions derived from information they encounter.
  (Cecil, 1995)
- The workplace and schools increasingly call for teams of people to work effectively to analyze and solve problems. Therefore, it is important for students to not only know how to ask the right questions but also to ask them in a logical sequence. Without a sequential questioning strategy, students often flounder, go off track, or overlook essential information.

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Richetti, C., & Sheerin, J. (1999). Helping students ask the right questions. *Educational Leadership, 57*(3), 58-62. Retrieved from http://www.ascd.org/publications/educational-leadership/nov99/vol57/num03/Helping-Students-Ask-the-Right-Questions.aspx

Types of Problem-Solving Skills with Definitions and Examples

Problem-Solving Skills	Definition	Examples
Abstraction	Abstraction is the process of leaving out of consideration one or more properties of a complex object or idea so as to focus on the others. It may also be applied when students take the key components or ideas occurring across given examples and use that idea to solve a new problem. Abstraction can also be viewed as the opposite of concrete thinking.	**Language Arts** – After reading different versions of Cinderella, students create a list of the elements of Cinderella stories such as a kind godmother, evil step sisters, a handsome prince, etc. They select one of the elements and write their own fairy tale incorporating this quality. Students also explain how Cinderella stories would be different if this element was not included. **Art** – Students study a variety of paintings by Impressionist artists or by a single artist. They identify the characteristics of Impressionism or of a single artist's work. Students select one of the characteristics and create a painting with this characteristic as the single focus.
Drawing Conclusions	Students draw conclusions based on information and perspectives presented.	**Language Arts** – Students examine the viewpoints of various characters in a novel or story they are reading. Based on these viewpoints and students' own experiences, they draw conclusions about a character's actions. **Math** – Students have studied a variety of geometric shapes. They apply their knowledge of these shapes to various types of architecture and draw conclusions for why the architect selected the geometric shapes utilized.
Predicting Outcomes	Students make predictions, and then test the validity of those predictions.	**Language Arts** – Students are reading *Stone Fox*, by John Reynolds Gardiner. Based on the book's setting and events in the characters' lives, students make predictions for how they will save Grandfather's farm. **Math** – When students are presented with a new concept, such as finding the circumference of a circle, they apply previously learned formulas to predict how they will find the circumference.
Observing and Experimenting	Students observe, record, code, measure, and/or experiment for the purpose of gathering information, analyzing a problem, or creating solutions.	**Language Arts** – Students read a variety of poems in order to identify similes and metaphors. They analyze each poet's use of figurative language and the visual images they create. They apply their analysis to creation of their own poems. **Science/Math** – After a study of weather patterns, students keep daily weather records for one month, noting the date, type of weather, temperature, and amount of precipitation. At the end of the month, they determine the median and mean for temperature and precipitation. Using this data and their knowledge of yearly weather patterns, they hypothesize if the medians and means for the next month will be the same, higher, or lower. At the end of the second month, students will again analyze their data, compare to the previous month, and either confirm or refute their hypotheses.

Justifying and Improving Solutions	Students analyze possible solutions to a problem. They select the best solution, justify their selection, and explain why other solutions are less adequate. Or, students are provided a solution to a problem and asked to improve upon the solution.	**Language Arts** – Students are writing personal narratives. The writing lesson focuses on possible introductions students may incorporate. Students analyze each type of introduction and select one that best represents their "voice" and purpose for writing. They verbally, or in writing, explain why they utilized the introduction selected. **Math** – Students are provided a variety of word problems to solve. Working in teams of four, students review problem solving strategies they have learned and select the most appropriate strategy for solving each problem. Individual students are expected to provide rationale for their choice and why it may be better than a peer's. **Science** – During a unit on conservation, students develop ways to utilize recycled materials. **Social Studies** – During a study of the Civil War, students choose a specific battle and develop ways it could have been more effectively planned by the losing side in order to change the outcome. **Physical Education** – During a unit on basketball, students watch videos of various games in order to analyze the plays utilized. They develop ways to make the plays more successful.
Create and Design	Students build on prior ideas or concepts to create or design new ideas or products.	**Language Arts** – Students read *The Legend of Jimmy Spoon* by Kristina Gregory. Since this book lacks a map, students create one showing the locations Jimmy visits with his adopted Shoshone tribe. They may also create a travel log or diary that Jimmy may have kept. **Math** – Students create videos to teach the skills of addition and subtraction to first graders that incorporate various models of representation.

Using Question Words with Younger Students

Who?	Asking about a person ***Who** is your friend?*
What?	Asking about an event or activity ***What** did you eat for dinner?* Asking about characteristics ***What** color is your favorite hat?*
When?	Asking about time ***When** do you go to bed?*
Where?	Asking about a place ***Where** do you live?*
How?	Asking about specifics such as one's reason or amounts ***How** do you bake a cake?* ***How** much money do you have?*
Why?	Asking about the reason for something ***Why** is the sky blue?*
Which?	Asking about a specific thing ***Which** hat do you like best?*

What Does It Mean to Scaffold Questions and Tasks?

When teachers scaffold questions and tasks, they provide supports that allow students to obtain the pre-requisite skills and knowledge necessary to move to deeper levels of thinking. Scaffolding of questions or tasks should be planned based on student needs, as well as learning outcomes.

> It is a sobering observation that teachers' questions often go nowhere. They may request the definition of a sonnet, the date of Shakespeare's birth, the meaning of the word "varlet"- but, once the reply is given, that is the end of the sequence. Extended stretches of questioning in which the information builds from facts toward insight or complex ideas rarely take place (Goodlad 1984, Sadker and Sadker 1985)(Wolf, 1987).
>
> Such questions can stop inquiry dead in its tracks. In place of such dead-end situations, skilled teachers give an exchange of questions a life-course. Across a long arc of questions and answers, they pursue an investigation in which simple factual inquiries give way to increasingly interpretive questions until new insights emerge. For an observer, there is an impression of a kind of mutually constructed improvisation unfolding (Mehan 1978, 1979)(Wolf, 1987).
> http://www.exploratorium.edu/ifi/resources/workshops/artofquestioning.html
> Consistently, the literature on effective questioning has insisted that questioning sequences are far more effective in promoting student learning than any one type of question.
> (Dantonio & Beisenherz, 2001).

Scaffolding of questions and tasks can have the following impacts:

- Provides a support structure for students' learning
- Provides students with a clear direction for their learning because questions are scaffolded across levels of Bloom's Taxonomy and aligned to learning outcomes. Questions may also be scaffolded based upon students' responses which communicates to students they are on the "right track."
- Increases student engagement and focus during the lesson, because students have opportunities to be successful when they have to obtain the necessary pre-requisite skills.

Examples of scaffold questions:

Learning Objective: Students will be able to explain how the Boston Massacre was one of the causes of the Revolutionary War.

- **Remembering**: When did the Boston Massacre take place? What did the British government do in response to the Boston Massacre?
- **Understanding**: Summarize what happened during the Boston Massacre.
- **Applying**: How would you have reacted if you had been in the streets of Boston when the massacre occurred? Provide historical details to support response.
- **Analyzing**: What motivated the crowd of colonists to begin throwing snowballs at the British soldiers?
- **Evaluating**: How and why did the Boston Massacre become one of the events that led to the Revolutionary War?
- **Creating**: What could have been a peaceful solution to the taunting that occurred prior to the Boston Massacre?

Learning Objective: Students will be able to describe characters' traits and motives in the story, *Goldilocks and the Three Bears*.

- **Remembering**: Who are the characters in Goldilocks?
- **Understanding**: Describe Goldilocks' reaction to seeing the three bears.
- **Applying**: What classroom and safety rules did Goldilocks not follow?
- **Analyzing**: How were the bears like real people?
- **Evaluating**: Why did Goldilocks go into the little house? What lesson do you think she learned from her experience?
- **Creating**: How might the story be different if Goldilocks had eaten Papa Bear's porridge, broken his chair, and slept in his bed? With a partner, write a different ending to the story.

References:

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