CAEP 2018 K-6 Elementary Teacher Preparation Standards

[Initial Licensure Programs]

Council for the Accreditation of Educator Preparation

The program standards and resource materials will be available on the CAEP website: caepnet.org. Inquiries on this document and CAEP Elementary Standards should be directed to:

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N.B. The CAEP 2018 *K-6 Elementary Teacher Preparation Standards* are to be applied as a whole comprised of standard statements, component statements, supporting explanations for each standard and component, rubrics for each component, and assessment evidence guidelines for the standards and components. These parts of the Elementary Standards are inextricably intertwined with each other and must be considered and applied as a whole.

C.2.2 – Introduction to the 2018 CAEP K-6 Elementary Teacher Standards

The Purpose and Use of the CAEP Standards for K-6 Elementary Teacher Preparation Programs for Initial Licensure

The Council for Accreditation of Educator Preparation, through an appointed Steering Committee for the Elementary Teacher Preparation Standards 2015-2018, is pleased to offer this set of educator preparation standards that outline what completers graduating from a K-6 Elementary educator preparation program should know and be able to do by the end of their preparation program and to ensure that each student learns and develops to his/her fullest potential.

Negotiating the 21st Century K-6 Elementary Landscape

The dawn of the 21st century reveals a new and challenging landscape for K-6 Elementary teachers; a landscape requiring new knowledge and skills for effective practice. New ways of thinking about child development, families and communities, content knowledge necessary for teaching content, assessment literacy, motivation and engagement, instructional practices, and professional development.

Beginning K-6 Elementary teachers will encounter increasingly greater diversity in children, families, and communities with whom they must work. Elementary teachers are encountering greater cultural diversity, increasing numbers of English Language Learners, and a broader range of student needs and abilities. This diversity demands multiple approaches to understanding and engaging each student in learning. There is a growing expectation that effective Elementary teachers will take the lead in involving families and communities in helping each student learn and develop. Understanding and engagement of diverse students, families and communities and ability to work collaboratively with a wide range of professional colleagues are now essential features of the K-6 Elementary landscape.

The new 21st century K-6 teacher will encounter demands for a deeper understanding of content knowledge for teaching, particularly in the areas of literacy, mathematics, science, and social studies; in addition, there are increasing expectations for teachers to be able to integrate teaching and learning across multiple content areas. Beginning Elementary teachers are faced with new demands for understanding and use of digital learning opportunities to help diverse students learn. More than ever, school learning involves more than what happens within the four walls of the classroom.

Assessment is an omnipresent and ever-changing feature of the K-6 Elementary landscape. The new K-6 Elementary teacher will encounter demands for more assessment, for a wider variety of assessments, and for greater use of assessment data to measure and monitor student learning and development. New K-6 teachers are expected to demonstrate greater knowledge, understanding, and skill in developing and using a range of formative and summative assessments; use assessment data to understand each student's progress; guide and revise instruction based on assessment data; and provide feedback to learners about their achievement, development, and engagement.

Though beginning K-6 Elementary teachers are facing new challenges, they are supported by a strong and growing knowledge base around student motivations and engagement in learning. More is known about planning for an optimal balance of teacher instruction, engaged student learning, and assessment; and about designing learning activities to optimize academic access and engagement for every student. Similarly, there is more knowledge about the role of managing the classroom learning environment by adapting classroom procedures to each learner's cognitive and motivational needs. Professional

knowledge is expanding regarding how to generate motivation and engagement for development and academic achievement.

The professional knowledge base under-girding effective instruction also provides support and guidance for beginning K-6 Elementary teachers. There is strong evidence for a variety of high-leverage instructional practices, which when delivered through a cohesive sequence of lessons, can support effective instruction and improved learning for every student. The field knows more now about teaching content, providing positive and constructive feedback to guide student learning, increase motivation, and improve engagement. The professional knowledge base provides new insights into leading whole group discussions, organizing and managing effective small group instruction to differentiate teaching to meet the learning needs of each student; and, organizing and managing individual instruction at provides targeted, focused, intensive instruction that improves or enhances each student's learning.

Professional development is also a shifting feature of the K-6 Elementary landscape. As the diversity of K-6 elementary school children and their families increases, so does the importance of communication with learners, families, and colleagues; and, the ability to work collaboratively with colleagues and school leaders to establish and pursue common goals that directly influence every student's development and learning. While beginning Elementary teachers encounter these unfamiliar communication and collaboration demands in their new role, they must at the same time build and implement a personal professional development plan and engage in their own continuing professional development.

The New CAEP K-6 Elementary Standards

In response to the changing K-6 Elementary education landscape, five new K-6 standards have been developed that focus more sharply than in the past on teacher knowledge and skills related to diversity, child development, families, communication, and collaboration. The new standards also require beginning K-6 teachers to possess a deeper content knowledge background than previously expected, as well as a deeper understanding of digital learning. These standards reflect the importance of assessment literacy and expect higher skills in the use of data to guide planning, instruction and feedback. There is greater emphasis on the knowledge base related to motivation and engagement, and the related knowledge bases for social and emotional learning in the K-6 years. There is increased emphasis on evidence-based practices and the expectation of practice-based teacher education. The new standards recognize that Elementary teachers are no longer sole practitioners, but part of a team—sometimes in a leading role and sometimes in a supporting role.

The five new CAEP 2018 K-6 Elementary Teacher Preparation Standards are deeper rather than broader. There was a conscious effort to focus on key knowledge and skills that are well supported by our professional knowledge base as contributing to K-6 student development and learning. While the standards are organized into five separate statements, there is a high degree of intentional integration across standards.

About the Standards

There are five K-6 Elementary Teacher Preparation Standards and each individual standard is composed of four related parts that may be usefully thought of as arranged in a pyramid, from the narrow top to the broad bottom: the standard title, the standard statement, the components, and the supporting explanation.

First, at the top of the pyramid is the *Title of the Standard* encompassing the primary focus and content of the standard; the title typically becomes the ubiquitous short-hand identification for a standard.

The second and more specific layer of the pyramid is the *Standard Statement*, a concise, coherent statement of candidate knowledge and skills emphasizing what candidates have students do, and focusing on student learning in some obvious way. Standard statements are limited to the most essential knowledge and skills that should be attained by candidates in Elementary Education programs. Standard statements are limited to what candidates who are completing an Elementary Education program must know and be able to do. These standards are written for education professionals seeking the first teaching license. Finally, Standard statements are written so that each concept that is to be a component appears in the language of the standard.

A third part of a CAEP 21018 K-6 Elementary Teacher Preparation Standards are the *Components*. The Components comprise the standard statement; they are a conceptual outline for the standard statement; they provide structure for the standard. Each concept that is a component appears in the language of the standard. The components focus on the critical aspects of standards for Elementary Education so that faculty can reasonably accommodate the standards in an initial Elementary teacher preparation program.

The fourth and foundational portion of each K-6 Elementary Teacher Preparation Standard is the *Supporting Explanation* which offers a general description of why that standard is important for Elementary Education preparation in particular. The supporting explanation provides guidance regarding the scope and focus of the standard. The supporting explanation illustrates how the standard appears in practice—what candidates must be able to know and do in order to demonstrate that they meet the standard. The supporting explanation provides essential guidance to Elementary teacher education programs in program curriculum planning, developing performance assessments, and creating scoring rubrics that are aligned with the standards.

The Steering Committee drew upon a range of resources in revising the Elementary standards: key research literature, professional standards, and policy documents. In addition, the Steering Committee members themselves—National Board-Certified teachers, teacher educators representing the full K-6 range, content specialists, developmental scientists—provided expertise and multiple perspectives as the standards were developed. Finally, each standard is linked to a professional knowledge base referenced in this document.

Using the Standards

The CAEP 2018 K-6 Elementary Teacher Preparation Standards express knowledge and skill expectations for beginning K-6 Elementary teachers who have completed an Elementary teacher preparation program leading to initial teaching licensure. As such, these standards will be useful to Elementary teacher preparation programs, faculty, and candidates. These new standards will provide an important point of reference for programs to examine their curriculum, field, and clinical experiences, key assessments, and rubrics. These standards are also for use by states and policy makers concerned with K-6 Elementary teacher performance. The goal of these standards is to influence Elementary educator preparation programs, to guide needed transformation and redevelopment, and to provide resources to states in establishing their own Elementary teacher standards, and to provide input into policies regarding Elementary teacher performance expectations and assessment.

Whatever use is made of the K-6 Elementary Teacher Preparation Standards, it is critical to recognize that a *Standard* is more than its title or the standard statement itself. Rather, each Elementary standard is the sum total of the title, the standard statement, the key components, the supporting explanation, the rubrics, and the assessment evidence guidelines. Each of these parts contributes to the meaning of the whole, and the whole is diminished if any part is not considered when using these standards. In

particular, the supporting explanations for the standards and components are written to provide concrete guidance regarding expected candidate performance as described in the standard statement and components.

C.2.3 – The Elementary Standards, Components, and Supporting Explanations

CAEP 2018 K-6 Elementary Teacher Preparation Standards

There are five K-6 Elementary Teacher Preparation Standards comprised of 23 components. The standards are written for K-6 Elementary teacher preparation programs and represent competence expected of candidates who have completed their initial teacher licensure program and are prepared to begin professional practice as K-6 Elementary teachers. The following provides a serial presentation of the full text of each standard title, standard statement, component statement, and supporting explanations for each component.

The professional knowledge base and references for each standard and component is presented in **Section C.2.4** later in this document. Similarly, Assessment Evidence Guidelines for each standard and Rubrics for each component are presented in **Section C.2.7** later in the document.

THE K-6 ELEMENTARY TEACHER PREPARATION STANDARDS

STANDARD 1 – *Understanding and Addressing Each Child's Developmental and Learning Needs*

Candidates use their understanding of child growth and development, individual differences, and diverse families, cultures and communities to plan and implement inclusive learning environments that provide each child with equitable access to high quality learning experiences that engage and create learning opportunities for them to meet high standards. They work collaboratively with families to gain a holistic perspective on children's strengths and needs and how to motivate their learning.

Components

1.a – *Candidates use their understanding of how children grow, develop and learn to plan and implement developmentally appropriate and challenging learning experiences within environments that take into account the individual strengths and needs of children.*

1.b – *Candidates use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's strengths and address their individual needs.*

1.c – *Candidates work respectfully and reciprocally with families to gain insight into each child in order to maximize his/her development, learning and motivation.*

Supporting Explanation

Children grow, develop and learn when they are engaged, challenged, and their unique perspectives, strengths, and differences are valued in an inclusive learning environment that is welcoming and accepting of each and every learner. Equity demands that every learner have access to this environment.

To achieve it, candidates must understand children, developmentally, individually, and within their family and community contexts so they can plan and implement high quality and challenging learning experiences that enable each learner to reach high standards and their full potential. To accomplish these goals, candidates must work collaboratively with families.

1.a – *Candidates use their understanding of how children grow, develop, and learn to plan and implement developmentally appropriate and challenging learning experiences within environments that take into account the individual strengths and needs of children.*

Candidates understand how children grow and develop across the developmental domains (cognitive, linguistic, social, emotional, ethical, and physical), how development in each domain impacts growth in the other domains, and how all together they impact learning. Candidates further understand that development in different domains occurs at different times for different children in different contexts. Candidates use this understanding to effectively apply strategies based on developmental principles so that children will be increasingly engaged, improving their learning outcomes.

Because children are continually growing and changing, candidates regularly assess learners' development, individually and in group contexts, to determine strengths and needs in each area of development, across the full spectrum of academic ability and readiness. Candidates then use this information to plan and implement learning experiences that meet the developmental needs of a diverse range of children in their classrooms. Candidates understand this will require constant fine-tuning of instructional approaches in how to be attentive to the multiple ways children communicate their knowledge, needs and capacities.

Candidates determine children's developmental levels using a variety of assessments including, but not limited to, observation of children as they work, learn, and play in a variety of settings; conversations with children and families, written inventories; and interactive technology devices.

1.b – *Candidates use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's strengths and address their individual needs.*

Candidates must understand children as individuals to successfully motivate and engage them in learning. This means candidates must recognize and respect the unique individual differences and diverse family, cultural, and community background(s) that each child brings to the learning context and how these differences might be leveraged to maximize a student's learning. Candidates understand the diverse range of differences that could play a role in how a child learns, including how they may affect his/her relationships with teachers as well as children. Candidates recognize that individual learner characteristics and family, cultural, and community backgrounds are interrelated, creating a unique learning profile for each student. These differences include, but are not limited to, prior knowledge and experiences, language, culture, differing ability levels, exceptionality, socioeconomic status, family configuration, sexual orientation, self-confidence, physical and social well-being, race, religion, ethnicity, gender identity and gender expression. Candidates know how to recognize and assess unique characteristics of the children in their classes and understand how these differences may manifest in such areas as differing rates of learning, motivation, attention, preferred learning modalities, complexity of reasoning, persistence, foundational knowledge and skills, and preferred learning and response modes. They know how to use this information to plan and implement instruction that builds on

individual children's strengths and addresses individual learner's needs. Candidates also consider how their own experiences and potential biases may impact their instructional decisions and their relationships with learners and their families.

Candidates use their understanding of individual differences and diverse families, cultures, and communities as resources to bring multiple perspectives and to make informed decisions regarding content, which includes attention to children's personal, family and community experiences and cultural norms.

Candidates use knowledge of individual children to provide opportunities for learners to demonstrate their learning in different ways and allow every child to advance as they demonstrate their understanding. They make and provide appropriate and timely accommodations, adaptations, and provisions for individual children with particular learning needs and differences. Candidates know how to access special educators, other specialists, resources, and supports, to assist them in meeting such learning needs and differences.

Candidates also use knowledge of families, culture and community, and access specialized support and resources to incorporate strategies for making content and instruction accessible and challenging to English Language Learners.

Component 1.c – *Candidates work respectfully and reciprocally with families to gain insight into each child in order to maximize his/her development, learning and motivation.*

Understanding a child from multiple perspectives is critical to gaining a holistic understanding of his/her learning potential. This requires information sharing and collaboration with colleagues, other professionals, and most importantly families. Candidates understand that they will not truly know their students until they know their families, and that home, community, and linguistic and cultural experiences play a critical role in children's growth and development. Candidates work respectfully and reciprocally with families regarding how best to motivate their child and to identify, set, and meet challenging yet reachable learning goals for their child. Candidates therefore actively seek information from and about families and take primary responsibility for maintaining respectful, ongoing, open two-way communication.

Candidates affirm the home culture and language, respect various structures of families and different beliefs about parenting, and access community resources to support learning and development. They understand that difficult situations at home such as poverty, domestic violence, homelessness, incarceration, foster care, chronic illness, death, and transitions such as relocating, divorce, and remarriage, may impact an individual learner and may limit parents' ability to participate in their child's education. They also understand that lack of access to resources, including technology, may impact children's learning. Thus, candidates take primary responsibility for initiating and sustaining respectful relations with families. Candidates collaborate closely with families of students with exceptional needs and English Language Learners to ensure needs are met and services received.

STANDARD 2 – Understanding and Applying Content and Curricular Knowledge for Teaching

Candidates demonstrate and apply understandings of major concepts, skills, and practices, as they interpret disciplinary curricular standards and related expectations within and across literacy, mathematics, science, and social studies.

Components

2.a – *Candidates demonstrate and apply understandings of the elements of literacy critical for purposeful oral, print, and digital communication.*

2.b - *Candidates demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains.*

2.c – *Candidates demonstrate and apply understandings and integration of the three dimensions of science and engineering practices, cross-cutting concepts, and major disciplinary core ideas, within the major content areas of science.*

2.d - *Candidates demonstrate understandings, capabilities, and practices associated with the central concepts and tools in Civics, Economics, Geography, and History, within a framework of informed inquiry.*

Supporting Explanation

2.a – *Candidates demonstrate and apply understandings of the elements of literacy critical for purposeful oral, print, and digital communication*[1].

Foundational Knowledge

Candidates understand major theories and empirical research that describe the cognitive, linguistic, motivational, and sociocultural foundations of oral communication, reading, and writing development, processes, and components, including word recognition, language comprehension and production, strategic knowledge, and reading–writing connections.

Candidates demonstrate the ability to read closely and to analyze and interpret information from different genres of writing.

Candidates know the basic components of written language, including the grammar of standard written English, different sentence types and structures, and different text types and purposes.

Candidates understand the basic elements of different kinds of writing, including the use of figurative language, fiction and nonfiction, poetry, and drama.

Candidates demonstrate the ability to write effectively for a variety of purposes and audiences.

Candidates demonstrate effective use of communication skills for a variety of purposes and audiences.

Candidates know that there are major theories of reading, writing and communication processes and development, including first and second literacy acquisition and the role of a heritage language in learning to listen, speak, read and write in a new language.

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[1] **Note:** The content-related expectations for literacy are an important subset of the standards for teaching reading and developing literacy. Educator Program Providers should consider the complete set of the standards, which are located at: http://www.literacyworldwide.org/get-resources/standards/standards-for-reading-professionals/standards-2010-role-2

Candidates demonstrate knowledge of language and reading development across elementary grades (e.g., word recognition, comprehension, strategic knowledge, and listening, speaking, reading and writing connections).

Curriculum and Instruction

Candidates use foundational knowledge to design or implement an integrated, comprehensive, and balanced curriculum.

Candidates explain how the reading and writing curriculum is related to local, state, and professional standards.

Candidates implement the curriculum based on students' prior knowledge, world experiences, and interests.

Candidates use appropriate and varied instructional approaches, including those that develop word recognition, language comprehension, strategic knowledge, and reading–writing connections.

Candidates select and implement instructional approaches based on evidence-based rationale, student needs, and purposes for instruction.

Candidates differentiate instructional approaches to meet students' reading and writing needs.

Candidates implement and evaluate instruction in each of the following areas: concepts of print, phonemic awareness, phonics, vocabulary, comprehension, fluency, critical thinking, motivation, and writing.

Candidates incorporate traditional print, digital, and online resources as instructional tools to enhance student learning.

Candidates, as needed, adapt instructional approaches and materials to meet the language-proficiency needs of English learners.

Candidates use a wide range of texts (e.g., narrative, expository, and poetry) from traditional print, digital, and online resources.

Candidates are guided by evidence-based rationale, select and use quality traditional print, digital, and online resources.

Candidates build an accessible, multilevel, and diverse classroom library that contains traditional print, digital, and online classroom materials.

Candidates understand the historically shared knowledge of the profession and changes over time in the perceptions of reading and writing development, processes, and components.

Candidates identify major milestones in reading scholarship and interpret them in light of the current social context.

Candidates understand the role of professional judgment and practical knowledge for improving all students' reading development and achievement.

Candidates show fair-mindedness, empathy, and ethical behavior in literacy instruction and when working with other professionals.

Candidates use multiple sources of information to guide instructional planning to improve reading achievement of all students.

Candidates demonstrate knowledge of the research and theory about effective learning environments that support individual student motivation to read and write.

2.b - *Candidates demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains*[2].

Number and Operations

Number and Operations in Base Ten
Understand the intricacy of counting, including the distinction between counting as a list of numbers in order and counting to determine a number of objects.

Understand how the base-ten place value system relies on repeated bundling in groups of ten and how to use varied representations including objects, drawings, place value cards, and numerical expressions to help reveal base-ten structure.

Explain how efficient base-ten computation methods for addition, subtraction, multiplication, and division rely on decomposing numbers represented in base ten according to the base-ten units represented by their digits and applying (often informally) properties of operations, including the commutative and associative properties of addition and multiplication and the distributive property, to decompose a calculation into parts.

Know how to use drawings or manipulative materials to reveal, discuss, and explain the rationale behind computation methods.

Extend the base-ten system to decimals and use decimals to represent and address systems on number lines. Explain the rationale for decimal computation methods.

Number and Operations—Fractions
Understand fractions as numbers, which can be represented by area and set models and by lengths and on a number line. Define *a/b* fractions as *a* parts, each of size 1/*b*. Attend closely to the whole (referent unit) while solving problems and explaining solutions.

Recognize that addition, subtraction, multiplication, and division problem types and associated meanings for the operations extend from whole numbers to fractions.

Explain the rationale for defining and representing equivalent fractions and procedures for adding, subtracting, multiplying, and dividing fractions.

Understand the connection between fractions and division, a/b = a÷b, and how fractions, ratios, and rates are connected via unit rates.

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[2] **Note:** The mathematics content expectations above are an adaptation of the recommendations for elementary teachers provided within *The Mathematical Education of Teachers II* (2012) Conference Board of the Mathematical Sciences. Washington, D.C.: American Mathematical Society, and, for the data content domain, *The Statistical Education of Teachers* (SET) (2015) The American Statistical Association. Alexandria, VA: American Statistical Association. Educator Program Providers should consider the more complete set of elementary teacher recommendations provided within *The Mathematics Education of Teachers II* (http://cbmsweb.org/MET2/) and the related *Progression Documents for the Common Core Math Standards*, located at http://ime.math.arizona.edu/progressions/#products as well as *The Statistical Education of Teachers* (http://www.amstat.org/education/SET/SET.pdf).

Reason about how quantities vary together in a proportional relationship, using tables, double number lines, and tape diagrams as supports.

Distinguish proportional relationships from other relationships, such as additive relationships and inversely proportional relationships.

Use unit rates to solve problems and to formulate equations for proportional relationships.

Operations and Algebraic Thinking

Operations

Understand the different types of problems solved by addition, subtraction, multiplication, and division, and meanings of the operations illustrated by these problem types.

Understand teaching/learning paths for single-digit addition and associated subtraction and single-digit multiplication and associated division, including the use of properties of operations (i.e., the field axioms).

Algebraic Thinking

Know and understand foundations of algebra within elementary mathematics, including understanding the equal sign as meaning "the same amount as" rather than a "calculate the answer" symbol.

Understand numerical and algebraic expressions by describing them in words, parsing them into their component parts, and interpreting the components in terms of a context.

Understand and apply lines of reasoning used to solve equations and systems of equations.

Measurement and Data (Statistics and Probability)

Measurement

Understand the general principles of measurement, the process of iterations, and the central role of units: that measurement requires a choice of measurable attribute, that measurement is comparison with a unit and how the size of a unit affects measurements, and the iteration, additivity, and invariance used in determining measurements.

Know how the number line connects measurement with number through length.

Understand what area and volume are and give rationales for area and volume formulas that can be obtained by finitely many compositions and decompositions of unit squares or unit cubes, including formulas for the areas of rectangles, triangles, and parallelograms, and volumes of rectangular prisms.

Data (Statistics and Probability)

Recognize and use appropriate graphs and numerical summaries to describe the distribution of categorical and numerical data.

Understand that responses to statistical questions should take variability into account.

Understand distributions for quantitative data are compared with respect to similarities and differences in center, variability (spread), and shape.

Determine and understand theoretical and experimental probabilities of simple and compound events, and why their values may differ for a given event in a particular experimental situation.

Understand the scope of inference to a population is based on the method used to select the sample.

Geometry

Understand geometric concepts of angle, parallel, and perpendicular, and using them in describing and defining shapes; describing and reasoning about spatial locations (including the coordinate plane).

Classify shapes into categories and reasoning to explain relationships among the categories.

Reason about proportional relationships in scaling shapes up and down.

Mathematical Practices

Understands that the mathematical practices define processes in which students must engage in everyday as their mathematical maturity develops. Candidates must attend to the connection between the mathematical practices and mathematics content within mathematics instruction. These practices include:

- 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; and
- Look for and express regularity in repeated reasoning.

***2.c** – Candidates demonstrate and apply understandings and integration of the three dimensions of science and engineering practices, cross-cutting concepts, and major disciplinary core ideas, within the major content areas of science*[3].

To ensure children gain a solid foundation and be successful in STEM related careers in the 21st century, teachers in K-6 settings need a deep understanding of science content in Earth, Life, and Physical

[3] **Note:** The science content expectations above are elementary teacher preparation focused suggestions derived from the Next Generation Science Standards: http://www.nextgenscience.org/next-generation-science-standards Educator Program Providers should also consider the recommendations provided by the National Science Teachers Association within their position statement on science teacher preparation located at: http://www.nsta.org/about/positions/preparation.aspx

Science as well as of Engineering, Technology and Applications to Science. Many of these content areas have both specific and natural connections that lead to integrated science teaching.

In addition to content, teachers in K-6 settings need to understand and model how science and engineering are practiced. Although there are many ways to engage in science and engineering, science education research indicates that eight practices encompass the Nature of Science, inquiry, and processes of conducting science and engineering. These practices cross content areas and encourage integration of the sciences as well as other subject areas necessary for conducting meaningful science and engineering.

Finally, children must find connections in order to make sense of the real world. These larger Unifying Themes, labeled Cross Cutting Concepts, allow teachers and students to see how specific content fit together with other content into broader and larger ideas that connect our understanding of the universe. When the three dimensions of content, practices and cross cutting concepts are combined in effective teaching, student learning of science and engineering is optimized through hands-on inquiry-based teaching that involves problem solving and critical thinking to develop the skills necessary for a productive future in the 21st century. The following descriptions detail the understanding of each separate dimension that teacher candidates should know and understand. Courses in Life, Physical and Earth Science as well as Introduction to Engineering (or any integrated content courses that meet the content stated below) that are taught with inquiry lab and field experiences are a priority for teacher candidates to complete in addition to science methods and science practicum/field experiences.

Science and Engineering Practices

A principal goal of science education is to engage in scientific inquiry and reason in a scientific context. Science is not just a body of knowledge but also a set of practices used to establish, extend, and refine scientific knowledge. The integration of knowledge and abilities with practices are needed to engage in scientific inquiry and engineering design. The essential elements of scientific and engineering practices include: Asking questions and defining problems; Developing and using models; Planning and carrying out investigations; Analyzing and interpreting data; Using mathematics, information, and computer technology, and computational thinking; Constructing explanations and designing solutions; Engaging in argument from evidence; and Obtaining, evaluating and communicating information.

Crosscutting Concepts

The seven crosscutting concepts are considered essential across the sciences and engineering and are critical in supporting the understanding of the core content ideas. The seven concepts are: Patterns (observed patterns of form and events); Cause and Effect: Mechanism and Explanation (events have causes and can be investigated, explained, and tested); Scale, Proportion, and Quantity (changes in scale, proportion, or quantity affect a system's structure or performance); Systems and System Models (defining the system, specifying its boundaries, and making models of the system); Energy and Matter: Flows, Cycles, and Conservation (tracking energy and matter into, out of, and within systems); Structure and Function (the shape and substructure of objects and living things determine its properties and functions); and Stability and Change (conditions of stability and rates of change of a system).

Disciplinary Core Ideas

The essential knowledge base that candidates should know include core and component ideas in the Physical Sciences, Life Sciences, Earth and Space Sciences, and Engineering Design.

Physical Science

Matter and Its Interactions: Matter can be understood in terms of the types of atoms present and the interactions both between and within them. The states (i.e., solid, liquid, gas, or plasma), properties (e.g., hardness, conductivity), and reactions (both physical and chemical) of matter can be described and predicted based on the types, interactions, and motions of the atoms within it.

Motion and Stability: Forces and Interactions: Interactions between any two objects can cause changes in one or both of them. An understanding of the forces between objects is important for describing how their motions change, as well as for predicting stability or instability in systems at any scale. All forces between objects arise from a few types of interactions: gravity, electromagnetism, and the strong and weak nuclear interactions.

Energy: Interactions of objects can be explained and predicted using the concept of transfer of energy from one object or system of objects to another. The total energy within a defined system changes only by the transfer of energy into or out of the system.

Waves and Their Applications in Technologies for Information Transfer: Waves are a repeating pattern of motion that transfers energy from place to place without overall displacement of matter. Light and sound are wavelike phenomena. By understanding wave properties and the interactions of electromagnetic radiation with matter, scientists and engineers can design systems for transferring information across long distances, storing information, and investigating nature on many scales—some of them far beyond direct human perception.

Life Science

From Molecules to Organisms: Structures and Processes: All living organisms are made of cells. All living things can be characterized by common aspects of their structure and functioning. Organisms are complex, organized, and built on a hierarchical structure. Organisms can be made of a single cell or millions of cells working together and include animals, plants, algae, fungi, bacteria, and all other microorganisms. They grow and reproduce, transferring their genetic information to their offspring. Over generations natural selection can lead to changes in a species overall; hence, species evolve over time. To maintain all of these processes and functions, organisms require materials and energy from their environment; nearly all energy that sustains life ultimately comes from the sun.

Ecosystems: Interactions, Energy, and Dynamics: Ecosystems are complex, interactive systems that include both biological communities (biotic) and physical (abiotic) components of the environment. As with individual organisms, a hierarchal structure exists; groups of the same organisms (species) form populations, different populations interact to form communities, communities live within an ecosystem, and all of the ecosystems on Earth make up the biosphere. Organisms grow, reproduce, and perpetuate their species by obtaining necessary resources through interdependent relationships with other organisms and the physical environment. Ecosystems are dynamic and are sustained by the continuous flow of energy, originating primarily from the sun, and the recycling of matter and nutrients within the system.

Heredity: Inheritance and Variation of Traits: Heredity explains why offspring resemble, but are not identical to, their parents and is a unifying biological principle. Heredity refers to specific mechanisms by which characteristics or traits are passed from one generation to the next via genes. Complex relationships between genes and interactions of genes with the environment determine how an organism will develop and function.

Biological Evolution: Unity and Diversity: Biological evolution explains both the unity and the diversity of species and provides a unifying principle for the history and diversity of life on Earth. Biological evolution is supported by extensive scientific evidence ranging from the fossil record to genetic relationships among species. Evolution, which is continuous and ongoing, occurs when natural selection acts on the genetic variation in a population and changes the distribution of traits in that population gradually over multiple generations. Through natural selection, traits that provide an individual with an advantage to best meet environmental challenges and reproduce are the ones most likely to be passed on to the next generation. Over multiple generations, this process can lead to the emergence of new species. Evolution thus explains both the similarities of genetic material across all species and the multitude of species existing in diverse conditions on Earth—its biodiversity.

Earth and Space Science

Earth's Place in the Universe: The planet Earth is a tiny part of a vast universe that has developed over a huge expanse of time. The history of the universe, and of the structures and objects within it, can be deciphered using observations of their present condition together with knowledge of physics and chemistry. Similarly, the patterns of motion of the objects in the solar system can be described and predicted on the basis of observations and an understanding of gravity. Comprehension of these patterns can be used to explain many Earth phenomena, such as day and night, seasons, tides, and phases of the moon. Observations of other solar system objects and of Earth, itself, can be used to determine Earth's age and the history of large-scale changes in its surface.

Earth's Systems: Earth's surface is a complex and dynamic set of interconnected systems—principally the geosphere, hydrosphere, atmosphere, and biosphere—that interact over a wide range of temporal and spatial scales. All of Earth's processes are the result of energy flowing and matter cycling within and among these systems. Weather and climate are shaped by complex interactions involving sunlight, the ocean, the atmosphere, clouds, ice, land, and life forms. Water is essential to the dynamics of most earth systems, and it plays a significant role in shaping Earth's landscape.

Earth and Human Activity: Earth's surface processes affect and are affected by human activities. Humans depend on all of the planet's systems for a variety of resources, some of which are renewable or replaceable and some of which are not. Natural hazards and other geological events can significantly alter human populations and activities. Human activities, in turn, can contribute to the frequency and intensity of some natural hazards. It has been shown that climate change is driven not only by natural effects but also by human activities.

Engineering Design

Engineering Design: The design process—engineers' basic approach to problem solving—involves many different practices. They include problem definition, model development and use, investigation, analysis and interpretation of data, application of mathematics and computational thinking, and determination of solutions. These engineering practices incorporate specialized knowledge about criteria and constraints, modeling and analysis, and optimization and trade-offs.

2.d - *Candidates demonstrate understandings, capabilities, and practices associated with the central concepts and tools in Civics, Economics, Geography, and History, within a framework of informed inquir[4]y.*

The social studies content knowledge noted above is essential for teachers as they plan for social studies teaching and learning that is:

Meaningful because of the teacher's understanding of connected networks of knowledge, skills, beliefs, and attitudes and the compelling ideas embedded in social studies content. (NCSS Standards, 2004)

Integrative because of the teacher's understanding of social studies content as connected to other subject areas, as well as connections among the different social studies areas. (NCSS Standards, 2004)

Value-based because the teacher's understanding of social studies content can be used as he or she guides students to consider the ethical dimensions of topics, to address controversial issues, and to think critically about social policy implications, with consideration of opposing views. (NCSS Standards, 2004)

Challenging because the teacher's understanding of social studies content enables him/her to model seriousness of purpose and a thoughtful approach to inquiry and to use instructional strategies designed to elicit and support students' use of similar strategies. (NCSS Standards, 2004)

Active because the teacher's understanding of social studies content prepares him/her to plan for authentic activities that call for real-life applications using the skills and content of history, geographic literacy, civics, and economics. (NCSS Standards, 2004).

In addition to the practices noted above, candidates should have foundational content knowledge in several social studies areas.

Civics and Government

Candidates should be able to:

- Explain the need for increased attention to civic education.
- Describe the overarching aims of civic education.
- Explain how to help students form realistic civic understandings.

[4] The social studies content expectations are an adaptation of a compilation of recommendations from a variety of sources that identify the social studies knowledge base expected for prospective elementary teachers. Such sources include licensure content-area test objectives for elementary teachers, National Council for Social Studies bulletins, Whitson's *What Social Studies Teachers Need to Know* (2004), and Fritzer's *Social Studies Content for Elementary and Middle School Teachers – 2 edition* (2010). Program Providers should also consider the more complete set of standards for social studies teacher recommendations provided by the National Council for Social Studies (in).

- Formulate strategies that help students think critically about important issues.
- Explain the roles and responsibilities of various government bodies.
- Offer a sound rationale for including civic education in the elementary school social studies curriculum.
- Acquire necessary knowledge and skills suggested by resources in the *National Standards for Civics and Government.*

Geography Literacy

Candidates should be able to:

- Explain what is meant by *geographic literacy.*
- Select activities most appropriate for enhancing knowledge and skills associated with geography-related standards.
- Compare similarities and differences in the ways groups, societies, and cultures meet human needs and concerns.
- Explain how information and experiences may be interpreted by people from diverse cultural perspectives and frames of reference.
- Explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the development and transmission of culture.
- Explain why individuals and groups respond differently to their physical and social environments and/or changes to them on the basis of shared assumptions, values, and beliefs.
- Articulate the implications of cultural diversity, as well as cohesion, within and across groups.
- Defend a central role for geography in the social studies curriculum.
- Acquire necessary knowledge and skills suggested by resources in the *Geography for Life: National Geography Standards1994.*

History

Candidates should be able to:

- Define the term *history* and explain and use historical thinking skills.
- Use primary and secondary sources to learn and teach about historical events and trends in U.S. and world history.
- Justify a central role for US and world history in the social studies curriculum.
- Acquire necessary knowledge and skills suggested by resources in the *National Standards for History.*

Economics

Candidates should be able to:

- Provide examples of activities that can help elementary school students study and understand economic concepts.
- Defend the role of the study of economic concepts in the social studies curriculum at the elementary school level.

Acquire necessary knowledge and skills suggested by resources in the *National Voluntary Standards in Economics.*

Teacher candidates must have more than a student's understanding of the content areas for which they are responsible as a teacher (U.S. Department of Education, 2008). To support a coherent curriculum, teachers must know how particular curricular content topics and expectations are connected to each other throughout the elementary grades. This connection from academic to curricular, across grade levels, content is important. Such a connection implies that candidates demonstrate understandings related to learning, curricular practices and standards, the academic language of the disciplines, and assessment as they consider within and across grade level learning progressions. Importantly, such connections, which include digital learning opportunities, are also made within and across the core disciplines noted, including the knowledge base and practices of other content areas of fine and performing arts, and physical education at the K-6 levels.

STANDARD 3 – *Assessing, Planning, and Designing Contexts for Learning*

Candidates assess students, plan instruction and design classroom contexts for learning. Candidates use formative and summative assessment to monitor students' learning and guide instruction. Candidates plan learning activities to promote a full range of competencies for each student. They differentiate instructional materials and activities to address learners' diversity. Candidates foster engagement in learning by establishing and maintaining social norms for classrooms. They build interpersonal relationships with students that generate motivation, and promote students social and emotional development.

Components

3.a *– Candidates administer formative and summative assessments regularly to determine* students' competencies and learning needs.

3.b – *Candidates use assessment results to improve instruction and monitor learning.*

3.c *– Candidates plan instruction including goals, materials, learning activities and assessments.*

3.d *– Candidates differentiate instructional plans to meet the needs of diverse students in the classroom.*

3.e *– Candidates manage the classroom by establishing and maintaining social norms and behavioral expectations.*

3.f *– Candidates explicitly support motivation and engagement in learning through diverse evidence-based practices.*

Supporting Explanations

Component 3.a – *Candidates administer formative and summative assessments regularly to determine students' competencies and learning needs.*

Candidates design, compose, select, adapt and administer a variety of assessments to determine what students know and are able to do. They gather data on student's learning, development and engagement from assessments and collegial collaboration within school and district guidelines. Candidates interpret

assessments appropriately to identify learner needs, monitor learning and behavior, and report progress.

Candidates assess students for a variety of audiences including the students, peer teachers, administrators, parents and the public. To address this wide range of constituencies, candidates collect assessment data for the purposes of determining the nature and extent of student achievement, determining grades and constructing narrative reports, evaluating students, and identifying students' educational needs.

Candidates employ their knowledge of measurement principles by administering formative and summative assessments appropriately and interpreting results accurately. They communicate precisely and comprehensively with colleagues. They systematically organize multiple types of assessment data to inform their feedback to students, grading, and communicating to all audiences.

Candidates plan, design and administer a variety of assessments to guide instruction including: (a) portfolios (collections of student artifacts providing evidence of the range, depth and precision of students learning during instruction), (b) performance-based tasks such as essays, enactments, debates, charts, inquiry reports, or dramatizations, (c) products constructed within culminating lesson or unit activities, (d) ratings or checklists of work completed in a complex learning activity, and I test items. Further, candidates administer assessments of learner motivations, dispositions and types of academic engagement.

Candidates collect formative assessment data by: (a) observing (e.g., eliciting performances assumed to depend on the desired competence, leading to a set of observations), (b) scoring (e.g., categorizing different observed performances and assigning them a relative value, or scores), (c) synthesizing (e.g., combining the values of the individual performances to yield measures of each competence), and (d) interpreting (e.g., using the measures to characterize how much of the desired expertise a student possesses).

Candidates differentiate assessment by modifying materials, tasks, questions, criteria and contextual supports during assessment tasks to allow students' multiple ways to demonstrate their performance capabilities. Candidates provide conditions that afford a range of students with diverse needs, including English Language Learners, and students with special educational needs with optimal opportunities to display their competencies.

Candidates assess students' digital literacy before, during and after instruction in curricular units. Specifically, candidates examine the students proficiency in: (a) identifying suitable purposes for reading a specific digital resource; (b) evaluating the links they will follow in navigation; (c) recognizing and using guidance in locating relevant pages of text; (d) distinguishing relevant from irrelevant pages; I devoting time in reading the most relevant material; (f) investing effort in comprehending the most critically important information; and (f) identifying related information from multiple locations (pages) and integrating it. Candidates assess the extent that students synthesize knowledge acquired during digital reading, use digitally acquired knowledge for future learning from multiple sources, and communicate new understandings effectively to others.

3.b – *Candidates use assessment results to improve instruction and monitor learning.*

Candidates use assessment data to plan, monitor, guide, and revise instruction. Candidates use all assessment sources to provide detailed, task-specific feedback to learners about their achievement and engagement.

Candidates effectively utilize data to examine, adjust, guide and improve instruction by (1) interpreting formative assessments, (2) confirming the interpretation, (3) generating and selecting alternative instructional approaches, (4) trying out instructional adaptations, (5) evaluating learning and engagement, and 6) providing feedback to students by communicating levels of proficiency and accomplishment.

Candidates interpret data accurately by identifying patterns and trends from classroom level assessments to describe the proficiency of the whole class, sub groups and individual students. Candidates identify the skill or knowledge being measured, performance by groups, subgroups or individuals, the opportunities to learn the assessed competencies, and the relationships of assessments to whole class lessons, mini-lessons, small group lessons, individual extensions, and remediation. To confirm the interpretation, candidates may examine other data measuring similar competencies, collaborate with colleagues, and consult with students.

When candidates believe achievement is unsatisfactory, they generate instructional alternatives depending on the implications of assessment data. For students with particular learning needs, candidates draw on students' individual strengths as a means of motivating them to work on their areas of need. When student content understanding is inadequate, candidates use texts with varying difficulty or content explication, and/or scaffold learning of these tasks by more extensively demonstrating and participating with students.

When assessments show that students have learned one topic area but not another, candidates shift instruction by providing more depth of teaching in the topic where students are less proficient. Candidates design formative assessments to show the types of instruction that students need in order to advance their proficiency, such as:

- reordering the curriculum to strengthen skills with which students are struggling;
- using different or supplementary materials, texts, or manipulatives;
- designating particular students to receive additional help;
- attempting new ways of teaching difficult, challenging, or complex concepts;
- re-aligning performance expectations among classrooms or between grade levels.

Candidates explain why students received the grades and scores they did, and they identify the specific content areas and skills the students should focus on. Candidates provide tools, such as rubrics, that help students learn from feedback. Candidates invest time in demonstrating how students can think, write, reflect and regulate their learning to benefit from the feedback provided.

Component 3.c – *Candidates plan instruction including goals, materials, learning activities and assessments.*

Candidates plan instruction comprehensively. Their plans reflect mentor teachers' educational goals and what they know about their learners' current needs and capabilities. Candidates' plans provide instructional strategies, resources, materials, learning environments and coordination with other school

professionals that address each learner's strengths and needs. Candidates plan how they will assess the instructional impact on student learning.

Candidates develop effective instructional plans to organize, implement, and evaluate student learning and engagement. Candidates demonstrate knowledge of content, pedagogy, social learning theory, child and adolescent development theory, and cognitive science and assessment by constructing learning experiences that are meaningful, inclusive, and measurable. They plan independently and collaboratively with professionals who have specialized expertise (e.g., special educators, related service providers, language learning specialists, librarians, media specialists) to design and jointly deliver appropriate effective learning experiences to meet unique learning needs. Candidates plan for the effective use of time management by allocating the optimal balance to teacher instruction, engaged student learning, and assessment. Candidates reflect on and evaluate their lessons to apply changes as needed for future use; and candidates engage students in reflection and self-assessment.

Candidates develop plans that target specific cognitive competencies needed for proficiency in the content domains of literacy, mathematics, science and social studies. In reading/language arts instruction for primary students, for example, candidates plan for explicit instruction to improve phonemic awareness, phonics, vocabulary, fluency and comprehension. More specifically candidates plan to target such competencies as morphological awareness, syntax, comprehension monitoring, narrative text structure and reading to learn from informational text. In writing teachers plan explicitly to convey such processes as: planning, drafting, revising, editing, and publishing.

To balance instruction within interdisciplinary units, candidates create objectives for a content area such as science, basic learning processes in such areas as content literacy or subject matter inquiry, and learning activity structures such as observing, writing, reading, collaborating, and synthesizing. Throughout the process of teaching complex interdisciplinary units, candidates demonstrate the ability to plan to monitor learning at key junctures. They identify mini-products of learning such as lists of observations, or outlines for writing that may be used in formative assessments to guide the planned activities of the unit.

Candidates implement their plans flexibly in response to students' learning needs. Candidates may modify the lesson objective, resources and materials, activity structure, time allocations, learning environment or instructional approach. Candidates may invent an example or an analogy, insert a mini-lesson, suggest a different perspective, omit a planned activity, alter a planned order of instruction, help students make connections, anticipate an upcoming difficulty, or enrich and accelerate instruction.

Candidates flexibly use resources beyond those provided in the curriculum. For example, they may provide modified resources and materials such as leveled texts, manipulative materials, technological tools, and information presented for a variety of learning styles. They may invite community members, either in person or virtually, to join their classrooms to enrich the learning experience. Candidates allocate appropriate time to each planned activity, while increasing or decreasing it as necessary. Candidates plan to use flexible grouping structures including partners, small group, peer tutors, and cooperative groups. They also create flexible learning environments within their classrooms to meet their students' social, physical, emotional, and intellectual needs.

Candidates employ multiple learning goals, available resources such as texts and internet, major instructional events, monitoring student progress, formative assessments embedded in instruction, and alternative pathways to achievement that accommodate needs of diverse students. Candidates design

instruction that coherently integrates these ingredients which enable students to see the purposes of instruction and be motivated by experiencing positive outcomes of their efforts to achieve.

Candidates plan assessments that are aligned with learning objectives and instructional strategies as integral, everyday, components of their instruction. Candidates incorporate multiple assessment strategies that can be used to regularly monitor student progress, identify student challenges and misconceptions, guide real-time adjustment to lessons, and assess student learning. Candidates use assessment results to provide timely, effective and meaningful feedback to students and report student growth.

Candidates plan assessment strategies that facilitate student reflection and self-assessment to identify their successes and struggles, efforts needed to reach their goals, and their preferred learning strategies. Candidates enable students to develop self-efficacy by attributing their successes to personal effort and ability. They design activities to foster students' self-regulated learning by enabling them to think about their thinking, set realistic goals, and identify motivations that lead to improved student performance. Candidates also use assessment results to self-evaluate, plan and adjust instruction, determine the effectiveness of lessons, and implement strategies used to support every student in meeting their learning goals.

Candidates explicitly plan segments of units and lessons that emphasize reasoning, critical thinking, problem solving, creativity and innovation related to disciplinary knowledge, contemporary crises, and societal dilemmas.

Component 3.d – *Candidates differentiate instructional plans to meet the needs of diverse students in the classroom.*

Candidates plan to differentiate their teaching. Their differentiated plans include activities to improve both basic competencies and higher order learning. Candidates plan differentiated scaffolds, texts, tasks and digital resources to optimize academic access and the engagement of diverse learners.

Candidates differentiate instruction by assessing, planning, and engaging students whose readiness, interests, and strengths differ from each other. Candidates actively plan for and attend to student differences in the context of high quality curriculums. Candidates create a flexible learning environment where all students, regardless of their levels of understanding and knowledge, engage in respectful tasks that develop the same knowledge and skills prescribed by the curriculum, while building deep, meaningful and transferable understandings. By differentiating according to individual learner needs, candidates make learning accessible for each student, and ensure that they successfully attain the educational goals that have been set.

Candidates identify learner readiness, strengths, needs, interests, and motivators through formative, including observations and collegial conversations, and summative measures. Candidates analyze such assessments to determine where students are, what they need to reach the established goals, where students should begin in the learning process, and what they need to do next. Candidates use a variety of instructional approaches to differentiate instruction including modifying content, processes, products, and learning environments to respond to student needs. Candidates continue to monitor student progress toward the learning goals and make strategic adjustments within a lesson and in planning for subsequent lessons.

Candidates differentiate content by planning a variety of options that differ in depth, breadth, complexity, and novelty. Candidates modify content that students need to learn and how they will access the information when they teach the same content differently. This might mean modifying the difficulty, depth, or complexity of the materials presented. For example, candidates may provide materials at different reading levels, review/re-teach skills with struggling learners, extend thinking for advanced learners, implement strategies that allow students to process information through multiple modalities, supplement curriculum with a variety of materials and resources, integrate appropriate technologies for gathering and organizing information that present different levels of challenge and complexity.

Candidates differentiate the learning process by planning for the variety of student interests and preferences for learning. Candidates modify process: how students will learn, and make sense of the learning, when they provide different pathways to the same essential learning goals. These options support students as they make sense of ideas, themes, and content. For example, candidates may expand the curriculum by increasing time on task for both struggling and advanced learners, compacting the curriculum, creating learning centers, providing hands-on activities and manipulatives, integrating digital resources, tiered assignments and assessments, preparing multi-levels of questioning, and allowing student choice of partner, text and task.

Candidates differentiate the expected products by planning for students to demonstrate their learning in unique and measurable ways. Candidates modify product, how students demonstrate their mastery of the content, when they provide student choice of methods to demonstrate understanding, allow for group or individual work, provide for various levels of difficulty, and use various means of assessing products of learning. For example, students may choose from a list of teacher mentor provided options or propose their own ideas, they may produce work using a variety of media or digital resources, they may work together or alone, they may create their products for a variety of audiences (classroom, family members, community), and they may choose how the product will be assessed.

Candidates differentiate the learning environment by planning a classroom designed to reflect a diverse group of learners. Candidates modify the learning environment – how the environment works and feels; when they build a positive community where all students feel safe and secure. This environment is designed to increase engagement by being fluid and responsive to the needs of the class. For example: the teacher might designate quiet and collaborative work zones, allow for appropriate student movement, decorate with and provide access to materials that reflect student diversity, and involve students in creating and revising classroom norms and routines as the need arises.

Candidates plan to scaffold learning by using their knowledge of students' current levels of understanding, skill level, and motivation in order to plan specific strategies that support attainment of educational goals. Candidates differentiate scaffolding to increase student understanding, skill development, task mastery, and responsibility for learning for a variety of content areas, ages and achievement levels.

Candidates plan to scaffold content by selecting content that is familiar, of high-interest, and developmentally appropriate. For some content, candidates plan to model how to perform a task or use a strategy, work with students to perform the task together, enable students to practice the task, and provide time for the students to continue learning toward mastery; in other content candidates plan to implement learning activities that are more problem-based. Candidates plan to innovate by providing students with opportunities for thematic problem solving, creative use of digital resources, and collaborative communications needed in future academic, workplace and community contexts.

Component 3.e – *Candidates manage the classroom by establishing and maintaining social norms and behavioral expectations.*

Candidates manage the classroom learning environment effectively by involving students in designing social norms that assure safety, positive interpersonal interactions, and mutual respect. They establish a consistent, organized, and respectful learning environment in which the norms, routines, and procedures for learner's behavior are positively stated and explicitly taught. Candidates construct and maintain a productive learning environment by adapting classroom procedures to each learner's cognitive and motivational needs.

Candidates apply social norms that enable every child to belong and benefit from membership in the classroom group. By evolving and sustaining a coherent set of norms and rules, candidates avert and preclude distractions and/or dangers arising when some students do not contribute positively to the classroom climate. Candidates use established social norms to facilitate the flow of group interactions, peer relationships, teacher-student understandings, and academic work routines.

Through explicit communications, candidates enable students to acquire such social competencies as: emotion recognition, stress-management, empathy, problem-solving, or decision-making skills. Candidates enable students to set and achieve positive goals, appreciate the perspectives of others, make responsible decisions, and handle interpersonal situations constructively. By enabling students to participate in classroom norms, candidates empower learners to advance academically.

In the process of constructing classroom norms, candidates invite student input into setting rules for physical needs, classroom discussions, personal interactions, student responsibilities, and learners' privileges. By articulating and reinforcing positive behaviors, candidates increase student prosocial activities and decrease unwanted behaviors. Candidates initiate and maintain a variety of routines for beginning, sustaining and ending classwork that function efficiently in ways that meet the physical and social needs of every child.

To maintain social norms, candidates refresh the expectation system regularly. In the reviewing process, candidates recognize students' successful participation, request student input into revision of norms, and enhance their sense of belonging and socially constructive dispositions. While attending to every child, candidates design and adapt the social norms particularly for students at risk. Especially for students with different cultural or language backgrounds, candidates provide frequent interpretations and explanations.

Candidates provide formal and informal guidance in processing, integrating, and selectively applying social and emotional skills in developmentally, contextually, and culturally appropriate ways. Candidates provide modeling, practice and application for social and emotional skills in diverse situations so that students use them as part of their daily repertoire of behaviors. Candidates focus on helping every child apply social skills to prevent problems such as interpersonal violence, bullying, and school failure.

By maintaining social norms in the classroom, candidates afford students with opportunities to contribute to their class, school, and community. They organize classroom interactions to assure every child's personal satisfaction, sense of belonging, and enhanced motivation that comes from such involvement. Candidates organize activities that enable students to value learning, increase their intrinsic

motivation to achieve, and develop a broadly applicable set of social-emotional competencies that mediate increased academic performance, health-promoting behavior, and citizenship.

Component 3.f – *Candidates explicitly support motivation and engagement in learning through diverse evidence-based practices.*

Candidates support student motivation and engagement in learning by creating explicit plans to share control with learners, make school learning relevant, sustain collaborative activities, and enable students to become self-regulating learners. They link academic work to each learner's interests, and foster students' values for school learning. Candidates form interpersonal relationships with students that enable them to advance in social, emotional, and motivational development.

Candidates organize classroom interactions that enable students to be active participants in their academic life, to master complex individual and collaborative competencies, and to develop dispositions that ensure continued learning beyond the school years. Candidates design and sustain classroom activity structures that encourage engagement in learning consisting of the commitment of time, effort and persistence in learning activities. Beyond assuring 'time on task', candidates optimize student engagement in learning by setting goals of deep thinking and meaningful processing. Candidates organize tasks that enable students to link their interests, knowledge, and emotional needs to academic learning. Candidates initiate learning activities that enable students to integrate their acquisition of disciplinary knowledge (e.g. mathematics, science, and social studies) with language and literacy skills, and active participation in social communities.

Candidates design classroom goals and social structures to assure that learning is energized by motivations including: belief in one's capacity to learn (self-efficacy), interest in the content of classroom activities (intrinsic motivation), sharing learning with classmates (social motivation), enjoying the benefits of learning and literacy (valuing), and seeking high proficiency (mastery goals). Candidates foster these motivations in the context of teaching the cognitive strategies and content standards that are central to disciplinary learning. To help students fulfill academic goals, candidates enable students to be actively involved in personally meaningful inquiry. Through asking socially relevant questions, candidates enable students to learn content, practice concepts and skills, and act strategically to accomplish academic goals. By placing a priority on problem solving and inquiry, candidates enable students to extend their academic engagement, critical thinking, argumentation, weighing multiple sources of evidence, and productive discussions while attaining basic competencies.

Candidates foster student engagement in learning by implementing practices such as: (a) involving students in recognizing and responding to actual problems in their lives or in society, (b) teaching concepts and skills as integrated tools for crafting solutions to important, meaningful problems, (c) helping students to take individual and collaborative control of, and responsibility for, their learning, (d) recognizing that cognitive challenge is a source of motivation, and I making relevance and initiative central pillars of teaching and learning. To underscore engagement support, candidates conduct formative assessments of engagement by evaluating student products, displays or accomplishments that display daily and extended disciplinary involvement and communication.

Candidates differentiate engagement support for students who are at risk, including students from low income communities, special needs learners, language minority individuals and culturally different peers. Candidates use language particularly suited for students at risk in the classroom. To optimize learner engagement, candidates scaffold the students' opportunities for choice, collaborative activities,

uses of texts, and task goals to accommodate every child's language backgrounds, cognitive competencies, social experiences, and expertise in self-direction.

Standard 4 – Supporting Each Child's Learning Using Effective Instruction.

Candidates make informed decisions about instruction guided by knowledge of children and assessment of children's learning that result in the use of a variety of effective instructional practices that employ print, and digital appropriate resources. Instruction is delivered using a cohesive sequence of lessons and employing effective instructional practices. Candidates use explicit instruction and effective feedback as appropriate, and use whole class discussions to support and enhance children's learning. Candidates use flexible grouping arrangements, including small group and individual instruction to support effective instruction and improved learning for every child.

Components

4.a *– Candidates use a variety of instructional practices that support the learning of every child.*

4.b – *Candidates teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child.*

4.c – *Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content.*

4.d – *Candidates provide constructive feedback to guide children's learning, increase motivation, and improve student engagement.*

4.e – *Candidates lead whole class discussions to investigate specific content, strategies, or skills, and ensure the equitable participation of every child in the classroom.*

4.f – *Candidates effectively organize and manage small group instruction to provide more focused, intensive instruction and differentiate teaching to meet the learning needs of each child.*

4.g – *Candidates effectively organize and manage individual instruction to provide targeted, focused, intensive instruction that improves or enhances each child's learning.*

Supporting Explanation

Component 4.a – *Candidates use a variety of instructional practices that support the learning of every child.*

Candidates use varied instructional practices to differentiate instruction based on the diverse backgrounds, knowledge, and characteristics of each child. Candidates use knowledge of learning theory, their own students' strengths and differences, and the results of informal and formal assessments to design and implement a variety of instructional practices (e.g., problem-based learning, direct instruction, inquiry-based learning, project based learning) that facilitate effective learning experiences and invite all children to become active and collaborative partners in the learning process. In doing so, candidates consider education of the whole child by fusing social and emotional learning with the development of academic skills and proficiencies.

As candidates use a variety of instructional practices, they employ a wide range of educational resource materials that can be readily adapted to differentiate instruction to meet the needs and interests of every child. Candidates use instructional strategies that elicit and build upon children's prior knowledge, while modeling, instructing, facilitating, coaching and providing feedback to children, in order to foster engaged learning, cultivate intrinsic motivation, and nurture the development of healthy dispositions that lead to lifelong learning.

Candidates design instructional practices that encourage children to take ownership in the learning process. This includes providing opportunities for each child to respond to relevant feedback from teachers and peers, to connect new learning with past experience, and to respond to content through different methods of communication, both oral and written, through the arts and physical education, and through the use of current digital technologies. Candidates' practices should present opportunities for children to make their own choices and the requisite skills that lead to problem solving, and critical and creative thinking. Candidates encourage children to probe content material by peer collaboration, constructive questioning, and comparing information from a variety of source materials. Candidates also design learning experiences that are intended to promote deepened understandings that help children grapple with big ideas and then apply what is learned to novel situations.

Component 4.b – *Candidates teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child.*

Candidates design and teach a cohesive sequence of lessons to support children in developing sophisticated concepts, skills and practices and deep understanding of content that cannot be completed within a single lesson. The candidate sequences instructional opportunities toward specific learning objectives and academic content in ways that connect to each child's prior knowledge and extend their learning through each lesson.

Candidates select a significant content topic or theme; develop overarching focus questions, and key concepts for the sequence of lessons. Candidates determine and establish challenging learning goals that reflect the diverse learning needs of every child. In designing the sequence of lessons, the candidate is aware of the cognitive difficulty and developmental appropriateness of learning expectations and the amount of scaffolding needed to support the learning of each child. The candidate plans the sequence of lessons and instructional approach based on information regarding each child's background, knowledge of the content, and children's special needs.

Candidates design and sequence lessons that provide children with opportunities to practice and master foundational concepts and skills before moving on to more advanced content in later lessons. The lesson sequence is also designed to provide opportunities for children's inquiry and discovery. Effectively-sequenced lessons maintain coherency and focus while keeping children engaged, provide access to new material and opportunities for children's practice, assess what children know and can do as a result of instruction, and are adapted in response to learner performance.

As candidates prepare to teach a cohesive sequence of lessons, they:

- Select a significant content topic or theme that is linked to standards.
- Develop overarching focus questions that guide the instructional sequence.
- Define key concepts that learners are to acquire as a result of instruction.

- Consider each child's abilities and backgrounds as they construct individual lessons. For example, some children may have considerable background about the topic and they can serve as mentors to other children or several children who are learning English as a new language and they might be partnered with others to support these children's learning needs.
- Construct lessons where content knowledge builds from one concept or skill to another. Lessons are not redundant where the same content is shared in each lesson. Each lesson adds some new information to the overarching, content topic and related standards.
- Create multiple ways for every child to participate. For example, the candidate provides direct instruction, modeling, scaffolding of content and children take notes, use representations, engage in discussion, partner with other learners, and participate in student inquiry and discovery.
- Utilize appropriate print, digital, and other appropriate materials to support each child's learning.
- Assess children's learning throughout the sequence of lessons and adjust instruction as necessary to meet the learning needs of each child.

Component 4. C – *Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content.*

The purpose of explicit instruction is to focus on critical academic content and make clear what a learner needs to do or think about while learning this content. Making content explicit is essential to providing all children with access to ideas and practices in a given disciplinary curricular area, including concepts, principles, skills, and heuristics that support broad and efficient acquisition of knowledge. Candidates make content explicit by providing a clear statement regarding the purpose for learning the content, strategy, or skill, and making explicit connections to prerequisite knowledge and skills. Candidates also provide a clear explanation of the content, strategy, or skill to be learned, focus instruction on the steps that lead to children's learning, and use scaffolds to guide the learner. Scaffolds consist of supports such as teacher assistance or breaking content into chunks or steps that allow the children to carry out a task and learn content as the scaffolds are gradually removed.

Effective efforts to provide explicit instruction address both the integrity of the subject and children's different interpretations of it, as learners make connections to and build upon prior learning. The candidate is able to demonstrate, think aloud, and describe relationships among concepts while using clear and precise language. This includes, as appropriate, providing step-by-step demonstrations that model the content, skill or strategy, and providing a range of examples and non-examples to establish boundaries regarding when and how a learner should apply the content, strategy, or skill. Explicit instruction is used to increase content coverage and enhance children's engagement and opportunities to learn content.

Component 4.d – *Candidates provide constructive feedback to guide children's learning, increase motivation, and improve student engagement.*

Candidates understand that the purpose of feedback is to guide children's learning and increase their motivation, engagement, and independence, leading to improved learning and behavior. Candidates use feedback to demonstrate where children are with regard to instructional objectives, and provide direct support regarding what they need to do to learn a particular concept or skill. Feedback should be timely, meaningful, genuine, and age-appropriate. Candidate feedback to children may be verbal or non-verbal,

and may take many forms including questioning, scaffolding instruction, providing written narrative comments, using an audio or video of performance, or providing computer-mediated feedback.

To provide effective feedback, candidates ensure that feedback is goal directed, i.e., feedback is most effective when the learner has a goal and the feedback informs the learner regarding whether he/she is on track, or what might be done to improve performance. Candidates provide feedback that is clear and tangible, providing the learner with an action that may be taken in response to the feedback. Candidates provide different forms of feedback, including feedback about whether content was correct or incorrect, process feedback addressing strategies that were used or could be used for more effective learning, and feedback about children's self-regulation (e.g., whether the child is applying a useful strategy to solve a problem).

Candidates understand that feedback is most effective when addressing faulty interpretations of information (e.g., use of an inefficient or ineffective strategy to solve a problem), or misconceptions (e.g. thinking that all numbers have an infinite number of factors), and providing cues to guide the learner toward the use of a more efficient or effective strategy or clearer, deeper understandings. Candidates engage each child in self-evaluation by examining and providing feedback as appropriate. Candidates understand this form of feedback assists children in developing error identification skills, and leads to increased learner self-regulation and independence in learning content. Feedback is an element of formative assessment, as the candidate provides on-going feedback until the child reaches the established learning goal.

Component 4.e *– Candidates lead whole class discussions to investigate specific content, strategies, or skills, and ensure the equitable participation of every child in the classroom.*

Candidates facilitate whole-class discussions so that the teacher and children may collaboratively investigate specific content, strategies, or skills. Candidates assure that children participate in instructionally productive discussions that might be based on previous problem solving, reading, writing, or other appropriate activities. In whole-class discussions, all children are expected to contribute orally, listen actively, respond respectfully, and learn from others' contributions. Candidates construct whole-class discussions that includes components such as choosing rich problems, identifying and asking generative questions, learning to re-voice children's ideas during the discussion, and engaging every child in the discussion equitably. These discussions serve to diagnose class understandings and build knowledge in relation to specific instructional goals as well as allowing children to practice listening, speaking, responding, and interpreting content.

Component 4.f *– Candidates effectively organize and manage small group instruction to provide more focused, intensive instruction and differentiate teaching to meet the learning needs of each child.*

Candidates understand the purpose of small group instruction is to differentiate teaching to meet the learning needs of every child by providing more focused, intensive instruction. Candidates assign children to homogeneous or heterogeneous groups based on explicit learning goals. Group assignments are determined by factors such as knowledge of children's backgrounds and data from formal and informal assessments. Candidates choose tasks that require collaboration, issue directives that promote productive and autonomous group interactions, and embed strategies that maximize learning opportunities and equalize participation such as cooperative learning or peer tutoring. To use groups

effectively, candidates monitor peer interactions and permit groups to work semi-independently. Candidates hold children accountable for both collective and individual learning and provide positive and corrective feedback to support productive learning. Candidates regularly monitor each child's progress and adjust their instruction accordingly.

Candidates use homogeneous groups to provide focused, intensive instruction for children who struggle to learn academic content, or who may excel at a particularly high level. For such homogeneous groups, candidates explicitly define the purpose for the grouping, criteria used for grouping children, and the time per day that learners will participate in these groups. The size of homogeneous groups should be appropriate based on the stated purpose of the group and designed to provide more effective instruction and improved achievement. Instruction for these groups should be provided for a limited portion of the school day and should not be used to provide differential pacing through the curriculum. Each child's progress in learning content should be frequently monitored, and instruction should be adjusted accordingly. Candidates develop and use an instructional plan that addresses the needs of the intended group, provide appropriate feedback, and guided practice and enrichment, as appropriate, during small group instruction.

Candidates understand that heterogeneous groups are used for many purposes and take many forms. For example, candidates may use heterogeneous groups to allow children to participate in grade level conversations around content. When this is done, a candidate defines the purpose of the group and criteria used for heterogeneously grouping children. Candidates know they must determine an appropriate structure for the group (e.g., cooperative learning using Jigsaw), and prepare children to use this structure. Within heterogeneous groupings, children learn to work collaboratively and to rely on each other to successfully complete the learning tasks.

Candidates understand that learner benefits from flexible small group instruction include effective and efficient learning, learning to take ownership, developing self-direction, and becoming actively engaged in the learning process.

Component 4.g – *Candidates effectively organize and manage individual instruction to provide targeted, focused, intensive instruction that improves or enhances each child's learning.*

Candidates understand that the purpose of individual instruction is to provide provide instructional support that is efficient and effective for an individual child who is, for example, not making sufficient progress; needs particular support or clarification; or who may need to be challenged, academically. Candidates use individual instruction to help a child clarify confusions, develop fundamental strategies or skills, or develop complex understandings of content. Candidates provide individual instruction to children based on formal and informal assessment, and the child's characteristics, background, knowledge of content, and/or special needs. They use an appropriate instructional strategy during individual instruction (e.g., problem-based or direct instruction, structured tutoring). Candidates also construct other individual learning opportunities to focus on providing occasions for child inquiry or project-based learning. They use problem-based, inquiry or explicit instruction, provide appropriate feedback, and guided practice during individual instruction, as appropriate. Candidates regularly monitor each child's progress and adjust their instruction accordingly. Unlike small groups, individual instruction is centered on a single child, solely working with the candidate.

STANDARD 5- Developing as a Professional

Candidates promote learning and development of every child through participation in collaborative learning environments, reflective self-study and professional learning, and involvement in their professional community.

Components

5.a *– Candidates work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth.*

5.b *– Candidates design and implement professional learning activities based on ongoing analysis of student learning; self-reflection; professional standards, research and contemporary practices; and standards of ethical professional practice.*

5.c *- Candidates participate in peer and professional learning communities to enhance student learning.*

Supporting Explanation

Component 5.a *– Candidates work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth.*

Collaboration with colleagues, mentors and other school personnel require candidates to draw from knowledge of elementary students' developmental and academic milestones. Candidates access information from multiple sources, including local, state, and national education policies that they actively share with colleagues when it is relevant to students' development and achievement. Candidates are able to discern what information to draw on and can clearly articulate information in a variety of modalities in order to advance the collaborative process.

Candidates understand and employ the dynamics of shared decision making, such as active listening, shared authority, and building consensus when collaborating with other professionals to achieve goals for curriculum development, school-based initiatives, and as they address the individual needs of each child. In order to advance group goals and objectives, candidates follow effective learning practices and lead professional learning activities designed to support diverse needs of young children.

5.b *– Candidates design and implement professional learning activities based on ongoing analysis of student learning; self-reflection; professional standards, research and contemporary practices; and standards of ethical professional practice.*

Candidates know about self-study and can identify areas of their professional practice that need improving, use a professional knowledge base to develop and implement a plan for their own improvement. They also show evidence of reflective approaches to their work, analyzing their own practices in a broader context, and using reflections to modify and improve and implement their professional learning plan. Candidates are able to draw on current research to design and construct a professional learning plan so they acquire effective professional skills that foster P-12 student learning. Candidates analyze and utilize data from assessments to ensure that the quality of their professional learning plan is relying on relevant and actionable measures. Candidates demonstrate their knowledge of pertinent ethical standards that must inform and guide their practice. They are also aware of and engaged

in examining ethical issues and societal concerns and the implications of those issues are used to inform their professional learning plan. Candidates assess the goals of the professional development in relation to the performance of his/her students. Continuous improvement to the professional learning plan is demonstrated by evidence of regular and systematic data driven analysis and appropriate changes are made as needed.

Component 5.c – *Candidates participate in peer and professional learning communities to enhance student learning*

Developing an authentic and sustained relationship with colleagues, mentors and peers is an important responsibility of professional life that promotes the continuing professional learning of candidates and also enhances student learning. Candidates know about the importance of career-long learning while also understanding how to participate in relevant learning communities in person or through the use of technology. Therefore, candidates know how to become part of and remain active in communities of practice that support their professional growth and development. This includes knowing how to: a) access school and district professional learning activities, b) participate in person or through the use of technology in other formal and informal learning environments, and c) join professional organizations and societies.

C.2.4 – Development of the Elementary Teacher Standards

This section describes how the CAEP 2018 K-6 Elementary Teacher Preparation Standards were developed. This description shows the Steering Committee's understandings of related events and developments elsewhere that influence its views about program standards. It presents a detailed explanation of the professional knowledge base upon which the program Elementary standards are founded. Finally, this description includes comments on how consensus was assured, and critiques and differences of opinion were handled.

C.2.4 – How the CAEP 2018 K-6 Elementary Teacher Preparation Standards Draw on Developments in Elementary Education

In preparing the CAEP 2018 K-6 Elementary Teacher Preparation Standards, the Steering Committee drew on developments in standard from the field of Elementary Education and related fields, including current standards for P-12 students and standards for teachers prepared by national professional organizations.

Standard 1

Children grow, develop and learn when they are engaged, challenged, and their unique perspectives, differences, and strengths are valued in an inclusive learning environment that is welcoming and accepting of each and every learner. Equity demands that every learner have access to this environment. To achieve it, candidates must understand children, developmentally, individually, and within their family and community contexts so they can plan and implement high quality and challenging learning experiences that enable each learner to reach high standards and their full potential. To accomplish these goals, candidates must work collaboratively with a range of individuals, including but not limited to, colleagues (e.g., special educators, content area specialists, language learning specialists, school librarians, administrators, technology specialists), related service providers (e.g., school nurses, counselors, school psychologists, social workers, speech therapists), families and community members.

The instruction of elementary school aged children is complex. A broad focus on all aspects of child development is imperative, given rapidly growing research in education, psychology, and neuroscience documenting the extraordinary development that occurs during this period. A failure to provide appropriate educational experiences that reflect children's developmental needs can result in lifelong consequences for children (e.g., NAEYC, 2009).

Educators must meet the needs of individual students, while simultaneously considering the diverse contexts in which these children live and learn. Standard #1 and its key components were developed based on both extant research on children's learning and development, and a consideration of parallel standards from relevant organizations. The standard focuses on both the individual student as do other professional standards (e.g., NAEYC Standard 1), but also emphasizes the interactions of students' backgrounds and experiences with individual differences across childhood.

Several other sets of standards that undergird the recommendations and knowledge base for Standard #1 include (a) the National Board for Professional Teaching Standards' Early Childhood Generalist Standards for teachers of students ages 3-8 and (b) the NBPTS Middle Childhood Generalist Standards for students ages 7-12; (c) the NAEYC Standards for Early Childhood Professional Preparation; and (d) the InTASC Model Core Teaching Standards. All these standards emphasize the importance of

development and individual differences in student learning. Below, we elaborate on the professional knowledge base for each key component.

Standard 2

Teaching is complex, and preparation must provide opportunities for candidates to acquire knowledge and skills that prepare them to address, every day, the needs of an increasingly diverse student population. Close to 30 years ago, Shulman (1986) argued for the centrality of subject or content matter in teaching, drawing attention to the particular ways that teachers must know and use content knowledge in teaching. He introduced the term "pedagogical content knowledge" as specialized teacher knowledge that intertwines content and pedagogy.

The Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards (2011) expects that teachers understand the central concepts, tools of inquiry, and structures of the content discipline(s) they teach, and understand how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues. Related InTASC teacher expectations include:

- Understanding common content misconceptions and how to guide learners to conceptual understanding;
- Knowing and using the academic language of the disciplines and how to make such language accessible to learners;
- Knowing how to integrate culturally relevant content to build on learners' background knowledge.

While there is limited empirical evidence to support conclusions about the effectiveness of specific approaches to preparing teachers the National Research Council (2010) "found no reason to question the recommendations professional societies have made about what is important for teachers to know" (NRC, 2010, page 4). The NRC report concludes that both strong content knowledge and pedagogical content knowledge are important. The report noted that:

> …for teachers of reading, it is important to (1) understand that students must master the foundational skills of reading (which include a firm grasp of phonics and comprehension strategies), and (2) possess a range of approaches for helping all students develop this mastery. In mathematics, it is important for teachers to be able to foster students' understanding of the core elements of mathematical proficiency (which include conceptual understanding, procedural fluency, and capacity for reasoning and problem solving). This capacity requires not only mathematical knowledge, but also understanding of how mathematics learning develops and of the variation in cognitive approaches to mathematical thinking. In science, the key points are similar to those for mathematics teachers: a grounding in college-level study of the science disciplines suitable to the age groups and subjects they intend to teach; understanding of the objectives for students' science learning; understanding of the way students develop science proficiency; and command of an array of instructional approaches designed to develop students' learning of the content, intellectual conventions, and other attributes essential to science proficiency (NRC, 2010, page 4).

Current efforts related to teacher background for STEM-connected content areas have focused on what should be taught. The mathematics standards developed through the Common Core State Standards Initiative (2010) and the Next Generation Science Standards (2013) have impacted the content preparation of elementary teachers. While there is some overlap between these two standards documents, there are also significant differences. In both the Common Core State Standards for Mathematics and the Next Generation Science Standards, practices are emphasized – capturing how scientists, engineers, and mathematics engage in their fields. Additionally, and most importantly, both also expect depth of understanding in few content topics and emphasize the development of student learning over time, which impacts how mathematics and science learning transfers to school-based curricular opportunities.

It is expected that elementary candidates have a strong foundation in the disciplines that comprise the social studies (see above), including that social studies interconnects the disciplines noted and presents students with a way to understand aspects of their world (NBPTS, 2012b).

Standard 3

The standard for Assessing, Planning and Engaging Students for Instruction is designed to address the challenges to education posed by contemporary conditions of economic inequality, rising achievement gaps, promises of the information society, and multiple literacies in the digital age. To this end, Standard 3 underscores the importance of teachers administering assessments for diverse purposes, planning instruction to create a productive learning environment, and expanding engaged learning for all students though enriched support for students' cognitive, social and emotional advancement.

To meet these challenges, Standard 3 promotes rigorous standards that enable teachers to increase students' achievement, graduation rates, class attendance, and extracurricular participation. Standard 3 points to the urgency of assessing the cognitive and motivational attributes of diverse K-6 populations toward the goal of continual instructional improvement. Standard 3 incorporates the recommendations of applied assessment researchers who propose commonsense data use practices for teachers.

The past two decades have ushered in an information age in which internet systems and software have been fused into work, home and school. With internet access to the world's information base, schools are no longer challenged merely to enable students to acquire and express knowledge, but rather schools must enable students to be able to retrieve, synthesize, apply and utilize knowledge to solve increasingly vexing problems. Students do not need to learn to recite, but to generate new ideas, become critical thinkers capable of reasoning with information, recast old models into new frameworks, and dialogue with persons for a variety of purposes such as sharing perspectives or solving problems. Standard 3 expresses the expectation that teachers will nurture students who are curious, who seek to explain their worlds, and who initiate their own explorations of intriguing topics in work and community contexts. To this end, teachers deliberately design their classrooms to extend engagement in learning as a vital tool to foster higher achievement. Furthermore, continual engagement in learning is an educational aim in a society where citizens are knowledge seekers and critical information consumers.

To prepare all students for an information society, Standard 3 relies on an abundance of multidisciplinary research into motivation and engagement among students and adults. Drawing on studies from developmental science, educational psychology, psychometrics, motivational theories and

qualitative methodologies, the American Psychological Association issued Twenty (20) Principles of PreK-12 teaching and learning, which are incorporated into Standard 3.

Planning extensively, continually, and collaboratively is vital to establishing an instructional program based on formative and summative assessment. To infuse the curriculum with systematic support for engagement in learning as well as cognitive scaffolding for complex disciplinary learning, effective teachers continually generate and revise long term and short term plans for instruction. Planning is grounded in foundational knowledge, students' unique needs and innovative approaches to attaining school goals. Planning addresses multiple aims including assessment systems, cognitive goals, social/emotional supports, productive learning engagement, and adaptation to the potentials and challenges of every student.

Standard 3 is consistent with the roles of assessing, planning and engaging students for instruction in released by INTASC, the International Literacy Association, the National Board for Professional Teaching Standards, and the National Science Teachers Association. The widely adopted Core Content State Standards are directed to reading and writing in Science and Social Studies which suggests an emphasis on integrating proficiency in several disciplines. These complex objectives demand higher quantity and quality of assessing, planning and engaging all students during instruction.

Standard 4

Research over the last decade has demonstrated that no in-school intervention has a greater impact on student performance than an effective teacher (Master, Loeb, & Wyckoff, 2014; NCATE, 2010). This has led to calls for improving teacher preparation to ensure that program graduates are well prepared to educate all students—including those from increasingly diverse socio-economic, ethnic, linguistic, and ability/disability backgrounds—to achieve high learning outcomes that ensure that they are college and career ready (NCATE, 2010). This has placed unprecedented demands on teacher preparation programs to produce program graduates who are "able to balance a focus on academic learning with an ability to respond to each student's cognitive and social-emotional developmental needs" (NCATE, 2010, p. 1). These program graduates must be "well versed in their curricula, know their communities, apply their knowledge of child growth and development, use assessments to monitor student progress and effectively engage students in learning" (NCATE, 2010, p. 1).

Given this context, the NCATE (2010) report *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers* called for teacher preparation programs to "shift away from a norm which emphasizes academic preparation and course work loosely linked to school-based experiences. Rather, (teacher education) must move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses." (p. ii). The NCATE report goes on to state "Candidates must develop a base of knowledge, a broad range of effective teaching practices, and the ability to integrate the two to support professional decision-making" (p. 5). This standard and components were written with these ideas and related challenges at the forefront. The components included in this standard are intended to ensure that program graduates are classroom ready, i.e., they are skilled in the use of key instructional practices that are needed to effectively address the needs of the diverse range of students who enter their classrooms.

Related to this emphasis on clinical practice, this standard was also influenced by the work of several scholars in teacher education who have written over the last decade about the need to redefine the

curriculum of teacher education to more closely focus on instructional practices that teachers use frequently in classrooms, and that that have been proven effective in improving student learning (Ball & Bass, 2003; Ball & Forzani, 2009; Davis & Boerst, 2014; Grossman, Hammerness, & McDonald, 2009; Kucan, Palincsar, Busse, Heisey, Klingelhofer, Rimbey, & Schutz, 2011; McDonald, Kazemi, & Kavanaugh, 2013; Windschitl, Thompson, Braaten, & Stroupe, 2012). These scholars have called for the development of "High Leverage Practices" that form the core curriculum of practice based teacher preparation programs (e.g., Davis & Boerst, 2014), and that closely connect to and complement the recommendations from the NCATE (2010) report. This preparation is intended to produce candidates who are learner-ready with the necessary skills to demonstrably improve achievement outcomes for all students (CAEP, 2014; CCSSO, 2012).

While considering this context, this standard and related components drew on and extended previous standards, including those developed by the Council of Chief State School Officers (2011) (CCSSO–Interstate Teacher Assessment and Support Consortium (InTASC) standards); the Association for Childhood Education International (2007); the National Association for the Education of Young Children (NAEYC) (2009); the Council for Exceptional Children (2012); the International Literacy Association (ILA); the National Science Teachers Association (NSTA); the National Council for Social Studies (NCSS); the National Council of Teachers of Mathematics (NCTM); and the National Board for Professional Teaching Standards (NBPTS). This was done to ensure that this standard and its related components are well aligned with other important sets of standards that are widely used by professional organizations and state education agencies. However, it was also recognized that given the current context in schools, as well as the need to improve teacher preparation and more fully ground these activities in clinical practice, these standards and components must extend beyond previous sets of standards in addressing critical instructional practices that could be used by beginning teachers to improve the performance of all students. To reflect this need, components and related instructional practices were chosen that focus directly on instructional practice, are frequently used in teaching, are broadly applicable in any content area, and are supported by research to foster improved student achievement (McDonald, Kazemi, & Kavanaugh, 2013).

Finally, this standard was influenced by recent reviews of research related to critical factors that influence student learning. One of these documents was published by the American Psychological Association (2015) and titled *Top 20 Principles from Psychology for preK-12 Teaching and Learning.* This document summarizes key insights from psychological science related to effective classroom instruction, and addresses the application of these principles to classroom practice. A second document, *The Science of Learning* was published by Deans for Impact (2015), and was written to "summarize the existing research from cognitive science related to how students learn, and connect this research to its practical implications for teaching and learning" (p. 2). These documents and additional research based on teacher education and student learning were used to guide the selection of components for this standard.

Standard 5

Candidates understand that ongoing professional learning and successful collaborations require sustained and ongoing motivation. Candidates frequently reference professional resources and organizations to continually improve their knowledge of elementary students' curricular and social needs including, but not limited to: ILA, NAEYC, NCSS, NCTE, MCTM, NMSA, and NSTA. Elementary Education candidates realize that "reflecting on teaching with colleagues provided

opportunities to ponder the obligations of teaching and provided greater access to theories, emerging practices, and promising research findings that can help them develop their professional expertise" (NBPTS, 2012, p.97).

Professional learning provides comprehensive, sustained, and intensive learning opportunities to expand the professional knowledge base available to teachers and to engage them in an ongoing process of critically examining their teaching practices to find new and more effective ways to improve student learning. Professional learning needs to address both an individual teacher's goals for professional growth and the larger organizational learning priorities for school improvement. Professional learning engages teachers in working with others to deepen their content knowledge, sharpen their instructional skills, and develop their ability to use data for meaningful decision-making. Thus, professional learning is an ongoing, job-embedded process that supports transfer of newly learned knowledge and skills to practice. Such learning also needs to be continuously evaluated and refined (InTASC Standards 2011). The candidate understands that the professional development process is based upon an understanding and knowledge of how to use a variety of self-assessment and problem-solving strategies to analyze and reflect on his/her practice and to plan for adaptations/adjustments. The candidate knows how to build and implement a plan for professional growth directly aligned with his/her needs as a growing professional based on school and system-wide priorities and using feedback from candidate evaluations and observations, and data on learner performance. The candidate sees him/herself as a learner, continuously seeking opportunities to draw upon current education policy and research as sources of analysis and reflection to improve practice. The candidate understands the expectations of the profession including codes of ethics, professional standards of practice, and relevant law and policy (InTASC Standards, 2011).

C.2.4 – Professional Knowledge Base for the K-6 Elementary Teacher Preparation Standards

The professional knowledge base for K-6 Elementary teaching and learning—including empirical research, disciplined inquiry, informed theory and the wisdom of practice, professional standards, and policy—undergird each of five standards and the 24 components. Evidence the standards are based on empirical research, disciplined inquiry, informed theory, and the wisdom of practice (Guidelines C.1.c, and C.2.3) can be found in two places: first, the Professional Knowledge Base sections and references for each standard as presented below; and second, in the response to Question 4 above, see the statement *How the 2018 K-6 Elementary Teacher Preparation Standards Draw on Developments in Elementary Education*. In the Professional Knowledge Base section below, discussion of each standard component describes how the findings from the knowledge base undergird the K-6 Elementary Standards.

Standard 1 Professional Knowledge Base

The instruction of elementary school aged children is complex. A broad focus on all aspects of child development is imperative, given rapidly growing research in education, psychology, and neuroscience documenting the extraordinary development that occurs during this period. A failure to provide appropriate educational experiences that reflect children's developmental needs can result in lifelong consequences for children (e.g., NAEYC, 2009).

Educators must meet the needs of individual students, while simultaneously considering the diverse contexts in which these children live and learn. Standard #1 and its components were developed based on both extant research on children's learning and development, and a consideration of parallel standards from relevant organizations. The standard focuses on both the individual student as do other professional standards (e.g., NAEYC Standard #1), but also emphasizes the interactions of students' backgrounds and experiences with individual differences across childhood.

Several other sets of standards that undergird the recommendations and knowledge base for Standard #1 include (a) the National Board for Professional Teaching Standards' Early Childhood Generalist Standards for teachers of students ages 3-8 and (b) the NBPTS Middle Childhood Generalist Standards for students ages 7-12; (c) the NAEYC Standards for Early Childhood Professional Preparation; and (d) the InTASC Model Core Teaching Standards. All of these standards emphasize the importance of development and individual differences in student learning. Below, we elaborate on the professional knowledge base for each key component.

Component 1.a Professional Knowledge Base

Scholarship on learning in children has acknowledged clearly that patterns of learning vary greatly, along a variety of dimensions (Jonassen & Grabowski, 2012). This has been reflected in many other organizational standards, including those of NAEYC (e.g., Standard #1), and NBPTS (Standard #1 Early Childhood). An awareness of this variability is essential for the provision of adaptive and effective learning environments, and for academic success, in all students. In particular, whereas development may be advanced in some domains, it may be less advanced in others; nevertheless, development within each domain is not necessarily linear; thus learning environments must meet current and potential developmental needs of learners.

From a cognitive perspective, children from kindergarten through sixth grade display much variability (e.g., see NBPTS Middle Childhood Generalist Standard #1). It is now widely acknowledged that cognitive development does not proceed in a predictable linear fashion for all children. Children's cognitive abilities (e.g., memory, utilization of effective self-regulatory strategies, etc.) emerge and develop on differing trajectories for many children, and do not always follow predictable grade-related progressions. Whereas some of the universal developmental hallmarks identified by Piaget and others are still acknowledged, current research on cognitive development in children acknowledges that much variation exists across individuals, as well as across groups and cultures (Feldman, 2013). Thus a teacher of third-grade students may have some students with more advanced information processing abilities than other students. Moreover, it is now widely acknowledged that cognitive development in children is influenced by a number of contextual variables, including exposure to educational programs and interventions, growing expertise in a particular content area (e.g., mathematics), motivation, exposure to reading during pre-school, pre-natal diets of mothers, and a variety of other factors (Kyllonen, 2016).

The development of linguistic abilities also varies markedly across children. Moreover, many students come from multi-lingual households, where English may not be the primary language. InTASC Standard #2 (Learner Differences) notes in particular that teachers need to consider language development and the needs of English language learners in planning instruction. Scholars now acknowledge that rather than the acceptance of distinct critical periods for language acquisition, the research community acknowledges the existence of *sensitive* (i.e., less definitive), rather than *critical*, periods for various aspects of language development (Bailey, Osipova, & Kelly, 2016). Language development is affected by children's prior exposure to language and gesturing, socioeconomic status, and other contextual factors (Goldin-Meadow, 2003; Goldin-Meadow et al., 2014). Thus, children in any given classroom, at

any given time, may vary widely in their linguistic abilities. Nevertheless, these are no longer seen exclusively as deficits, but rather, as developmental delays that can be overcome (Goldin-Meadow).

Social development also varies greatly. Social development encompasses a variety of factors, including children's emerging sense of self, relationships with peers, and moral reasoning. Social development is prominently considered in InTASC Standard #1 (Learner Development) and in NAEYC Standard #4 (Using Developmentally Effective Approaches to Connect with Children and Families). Social development is affected by many variables that are outside of educators' direct control. For example, parenting practices are related to social development; more adaptive outcomes are associated with parenting styles that involve both respecting children's autonomy, while simultaneously providing a reasonable amount of structure (e.g., Chan, 2011). Moreover, recent research in behavior genetics indicates that some aspects of socially-developing behaviors (e.g., antisocial and prosocial behaviors) are genetic in origin (Grusec, Chaparro, Johnston, & Sherman, 2013).

Children's feelings and displays of emotion also vary greatly. Students' emotional development is prominent in InTASC Standard #1 (Learner Development) and NAEYC Standard #1 (Promoting Child Development and Learning). The emergence of emotional responses in children is affected by both social contexts and by the nature of their relationships with parents, peers, teachers, and others with whom they interact. Children vary in their abilities to regulate their emotions (e.g., Kurki et al., 2015) and to understand others' emotions (e.g., Pons, Harris, & de Rosnay, 2004).

Developmentally appropriate tasks. As noted above, children display much variability in a host of aspects of development. Thus it is critical to match academic curricula appropriately to the developmental readiness of children (e.g., see also NAEYC Standard # 4 and NBPTS Early Childhood Standard #7). Not all second graders will be able to engage in the same types of tasks at the same time. In recent years, research framed in Vygotskian theory has emerged as an effective framework for the provision of developmentally appropriate tasks for developing learners (e.g., Barnett et al., 2008). When academic tasks are presented in socially mediated environments, wherein children can work collaboratively on tasks with others (including with technology), learning is enhanced (e.g., Burts et al., 1993). For example, a recent longitudinal cluster-randomized study of the provision of individual literacy instruction (i.e., instruction in which students engage directly with adults) for first through third graders indicated that participation in this type of instruction was related to enhanced reading skills in children (Connor et al., 2013).

Taking strengths and weaknesses of individual learners into account. Research over the past decade has clearly acknowledged that the consideration of individual students' abilities and development by teachers is essential. In particular, research indicates that the provision of emotional support by teachers to individual students is related to valued outcomes, including more adaptive social behavior, and more effective self-regulation; these benefits accrue to all children, regardless of socioeconomic background or risk factors (e.g., Merritt et al., 2012). Nevertheless, scholarship also suggests that cultural differences exist, wherein the relations of the types of support provided by teachers to students may vary by students' cultural backgrounds (e.g., D'Ailly, 2003). Results of a meta-analysis on learner-centered teacher-student relationships (i.e., relationships between teachers and students that are focused on the individual learning needs of students,) indicate that these relationships are related to both cognitive and affective outcomes (Cornelius-White, 2007).

Component 1.b Professional Knowledge Base

InTASC Standards #2 (Learning Differences) and #4 (Content Knowledge) and NAEYC Standards #1 (Promoting Child Development and Learning) acknowledge the need for educators to build instruction and to enhance content knowledge based on students' prior knowledge and experiences. Learning ultimately involves the consolidation of newly-learned information into long-term memory. Research clearly and unequivocally indicates that newly learned material is "remembered" when it is encoded so that it relates to one's prior knowledge (Heatherton, Macrae, & Kelley, 2004). Nevertheless, prior knowledge is dictated by one's prior experiences, as well as to the social contexts in which children reside and develop. Thus children's social and cultural backgrounds, and their abilities and disabilities, need to be considered when students are engaged in classroom activities and assessments.

Although it is readily acknowledged that all students can learn, it is essential to also acknowledge that culture and language impact how students learn, and these differences must be considered in the work of teachers (Boykin, Noguera, & Association for Supervision & Curriculum, 2011; Castagno & Brayboy, 2008; Gay, 2013; Salerno & Kibler, 2013). Culture, language, and diversity figure prominently in InTASC Standards #1 (Learner Development) and #2 (Learning Differences) and in NBPTS Early Childhood Standards #1 (Using Knowledge of Child Development to Understand the Whole Child) and #3 (Fostering Equity, Fairness, and Appreciation of Diversity), and NBPTS Middle Childhood Standards #1 (Knowledge of Students) and #2 (Respect for Diversity). Moreover, issues of culture, language, and diversity are integrated throughout all of the NAEYC standards. Students experience benefits when their cultural and linguistic backgrounds are understood, acknowledged, and leveraged by their teachers. For example, there is evidence that the inclusion of music and movement enhances learning for African American children (Cole & Boykin, 2008).

Children from diverse backgrounds benefit in particular from the use of culturally responsive teaching methods (e.g., Gay, 2010; Sleeter & Cornbleth, 2011), as also reflected in InTASC Standard #2 (Learner Differences). Culturally responsive teaching involves consideration of a number of factors when planning instruction. African American and Hispanic students in particular benefit when teachers (a) are aware of their own biases (i.e., self-understanding); (b) understand and value the worldviews of their students; (c) use cooperative learning techniques; (d) appreciate the fact that some minority students may understand time (and how time is spent) from a 43olychromic perspective (i.e., deadlines may have different meaning for some students); and I understand that communication styles vary for students of some cultural groups (see Ford, 2016, for a review of the research).

Diverse needs are better met by teachers of children when motivation and engagement are considered in light of students' diverse backgrounds. The importance of a focus on motivation and engagement is emphasized in InTASC Standard #3 (Learning Environments), NAEYC Standards #1 (Promoting Child Development and Learning) and #4 (Using Developmentally Effective Approaches), and is part of the first of the five core propositions for early childhood (Teachers are Committed to their Students and their Learning) and middle childhood (Teachers are responsible for managing and monitoring student learning) that undergird NBPTS standards, as well as part of NBPTS Early Childhood Standard #8 (Implementing Instruction for Development and Learning) and NBPTS Middle Childhood Standards #1 (Knowledge of Students) and #5 (Instructional Decision-Making). In order to effectively provide appropriate education for diverse students, and to encourage continuing motivation during adolescence, educators must carefully plan and examine how their instructional practices motivate young children to either persist or withdraw from their studies. This includes knowledge of (a) the fact that the use of rewards for academic accomplishments must be presented in informational and non-controlling ways

(e.g., Deci, Koestner, & Ryan, 1999); (b) feedback on academic work should help students to develop adaptive attributions when they experience both successes and failures (e.g., Weiner, 2012); (c) lessons should be prepared so that they emphasize the importance and intrinsic value of what is being studied (e.g., Hulleman, Godes, Hendricks, & Harackiewicz, 2010; Wigfield & Eccles, 2002) and (d) the benefits of fostering mastery goals in students (e.g., Anderman & Wolters, 2006). Further, all practices designed to enhance motivation and engagement must reflect the influences of culture and diversity; thus a "reward" for some students may not be appreciated in the same way by students from diverse backgrounds.

As with students from culturally and linguistically diverse backgrounds, it is critical that candidates recognize that all students with disabilities can learn and have high expectations for the learning of these students. Candidates should also recognize the importance of including students with disabilities as valued members of the school community. This includes supporting these students to ensure that they belong to the school community and are accepted by others; they actively participate in the academic and social community of the school; and they are given supports that offer them the opportunity to succeed (McLeskey, Rosenberg, & Westling, 2013).

High expectations for the learning and behavior of students with disabilities should be coupled with the recognition that students' abilities and disabilities impact how they learn, and these differences should be considered in the work of teachers. Students with disabilities are best characterized by their learning, social/behavioral, and physical diversity, and they benefit when the range and diversity of their abilities and disabilities are understood, acknowledged, and leveraged by their teachers. Students with disabilities benefit in particular from supports that allow them to successfully engage in age-appropriate, grade level academic content, and the use of effective instructional practices that accelerate their learning (Batsche, 2014; Denton, 2012; Haager & Vaughn, 2013; McLeskey & Waldron, 2011; Reutzel, Clark, & Flory, 2015). Furthermore, some of these students require social/behavioral supports at different intensity levels to allow them to fully participate in the social community of the school (Sugai, Simonsen, Bradshaw, Horner, & Lewis, 2014). Finally, given the disproportionate number of students with disabilities from culturally and linguistically diverse backgrounds (Bal, Sullivan, & Harper, 2015), many benefit from the use of culturally responsive methods to address their academic and social needs.

Candidates also should have some understanding of the unique learning needs of gifted and talented students, including those who may have learning disabilities but also perform above grade level, and how to address those needs. Research indicates these students need both daily challenge as well as regular opportunities to be unique and work independently in their talent area (Rogers, 2007). Strategies for addressing their needs include providing a faster pace, less repetition, more complexity, and greater depth and/or breadth with respect to curriculum and instruction; grouping with alike-learning peers; subject and grade-based acceleration (e.g., advanced placement courses or skipping grades); and enrichment opportunities beyond the basic curriculum (NAGC, n.d.; Siegle, Wilson & Little, 2013; Rogers, 2007). In addition to academic needs, candidates should understand that because gifted students are typically more advanced mentally than their chronological age peers, they may experience asynchronous development or discrepancies between the rates of intellectual, psychomotor, and affective development (Silverman, 2002). "Advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm" (as defined by the Columbus Group and cited in Silverman, 2002, p. 32). No uniform description or profile of a gifted student exists, especially in today's diverse school environments (Colangelo & Wood, 2015).

Component 1.c Professional Knowledge Base

Collaborations with families, colleagues, and other partners are essential for optimal learning to occur. InTASC Standards #1 (Learner Development) and #10 (Leadership and Collaboration) emphasize collaborations with families, communities, colleagues, and professionals, as does NAEYC Standard #2 (Building Family and Community Relationships) and NBPTS Early Childhood Standards #2 (Partnering with Families and Communities), #3 (Fostering Equity, Fairness, and Appreciation of Diversity), and #6 (Managing the Environment for Development and Learning). Perhaps the most obvious form of collaboration can occur within the school walls, with colleagues. Common planning time in particular allows for teachers to work collaboratively to enhance learning opportunities for their students (Dever & Lash, 2013).

Research indicates that learning and achievement are impacted by interactions and experiences that occur outside of school or beyond the typical school day. For example, results of a randomized trial in which parents of preschool children received home visits to facilitate their engagement in early language and literacy activities indicated that greater engagement of parents was related to improved reading and writing skills, thus better preparing those children for school entry (Sheridan, Knoche, Kupzyk, Edwards, & Marvin, 2011).

Standard 2 Professional Knowledge Base

Teaching is complex, and preparation must provide opportunities for candidates to acquire knowledge and skills that prepare them to address, every day, the needs of an increasingly diverse student population. Close to 30 years ago, Shulman (1986) argued for the centrality of subject or content matter in teaching, drawing attention to the particular ways that teachers must know and use content knowledge in teaching. He introduced the term "pedagogical content knowledge" as specialized teacher knowledge that intertwines content and pedagogy.

Content knowledge describes the depth of understanding of critical concepts, theories, skills, processes, principles, and structures that connect and organize ideas within a field. (Ball, D. L., Thames, M. H., & Phelps, G., 2008). Research indicates that students learn more when their teachers have a strong foundation of content knowledge (Schacter, J., & Thum, Y. M., 2004). Teacher candidates 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, L., 1987).

The development of pedagogical content knowledge is a shift in teachers' understanding from comprehension of subject matter for themselves, to advancing their students' learning through presentation of subject matter in a variety of ways that are appropriate to different situations – reorganizing and partitioning it and developing activities, metaphors, exercises, examples and demonstrations—so that it can be grasped by students (Shulman, 1987). The intent of this standard is to present expectations related to the content knowledge for teaching, particularly as such content knowledge addresses and intersects with curricular expectations at the elementary school level.

The Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards (2011) expects that teachers understand the central concepts, tools of inquiry, and structures of the content discipline(s) they teach and understand how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues. Related InTASC teacher expectations include:

- Understanding common content misconceptions and how to guide learners to conceptual understanding;
- Knowing and using the academic language of the disciplines and how to make such language accessible to learners;
- Knowing how to integrate culturally relevant content to build on learners' background knowledge.

While there is limited empirical evidence to support conclusions about the effectiveness of specific approaches to preparing teachers the National Research Council (2010) "found no reason to question the recommendations professional societies have made about what is important for teachers to know" (NRC, 2010, page 4). The NRC report concludes that both strong content knowledge and pedagogical content knowledge are important. The report noted that:

> …for teachers of reading, it is important to (1) understand that students must master the foundational skills of reading (which include a firm grasp of phonics and comprehension strategies), and (2) possess a range of approaches for helping all students develop this mastery. In mathematics, it is important for teachers to be able to foster students' understanding of the core elements of mathematical proficiency (which include conceptual understanding, procedural fluency, and capacity for reasoning and problem solving). This capacity requires not only mathematical knowledge, but also understanding of how mathematics learning develops and of the variation in cognitive approaches to mathematical thinking. In science, the key points are similar to those for mathematics teachers: a grounding in college-level study of the science disciplines suitable to the age groups and subjects they intend to teach; understanding of the objectives for students' science learning; understanding of the way students develop science proficiency; and command of an array of instructional approaches designed to develop students' learning of the content, intellectual conventions, and other attributes essential to science proficiency (NRC, 2010, page 4).

Current efforts related to teacher background for STEM-connected content areas have focused on what should be taught. The mathematics standards developed through the Common Core State Standards Initiative (2010) and the Next Generation Science Standards (2013) have impacted the content preparation of elementary teachers. While there is some overlap between these two standards documents, there are also significant differences. In both the Common Core State Standards for Mathematics and the Next Generation Science Standards, practices are emphasized – capturing how scientists, engineers, and mathematics engage in their fields. Additionally, and most importantly, both also expect depth of understanding in few content topics and emphasize the development of student learning over time, which impacts how mathematics and science learning transfers to school-based curricular opportunities.

It is expected that elementary candidates have a strong foundation in the disciplines that comprise the social studies (see above), including that social studies interconnects the disciplines noted and presents students with a way to understand aspects of their world (NBPTS, 2012b).

As noted in each of the standard statements above (2a-2d) candidates would be expected to connect their content-related understandings to curricular opportunities both within particular areas of content (e.g. science) and across other curricular expectations within literacy, mathematics, science, social studies, health and physical education.

Relatedness to National Board Standards (NBPTS, 2012), InTASC Model Core Teaching Standards (2011), and the National Association for the Education of Young Children (NAEYC, 2012) Standards is noted in the curricular connections candidates are to make. These include, as noted, making connections among topics, concepts, and understandings within and across content areas and modeling the use of content-specific language, vocabulary, and skills and provide real-world applications which relate academic contexts to college- or career related situations.

The Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards (2011) also expect that teachers have a deep knowledge of student content standards and learning progressions in the areas of literacy, mathematics, science, and social studies; understand how current interdisciplinary themes (e.g., civic literacy, health literacy, global awareness) connect to the core content areas and how to weave those themes into meaningful learning experiences, and understand how to use digital and interactive technologies for efficiently and effectively achieving specific learning goals.

As candidates relate their content knowledge to curricular opportunities it is expected that they would identify and use appropriate college and career level standards and other related resources to design, implement, and evaluate developmentally meaningful and challenging curricular opportunities for all children (adaptation of Standard 5c, NAEYC, 2012).

Standard 3 Professional Knowledge Base

This standard of Assessing, Planning and Engaging Students for Instruction is designed to address the challenges to education posed by contemporary conditions of economic inequality, rising achievement gaps, promises of the information society, and multiple literacies in the digital age. To this end, Standard 3 underscores the importance of teachers administering assessments for diverse purposes, planning instruction to create a productive learning environment, and expanding engaged learning for all students though enriched support for students' cognitive, social and emotional advancement.

To meet these challenges, Standard 3 promotes rigorous standards that enable teachers to increase students' achievement, graduation rates, class attendance, and extracurricular participation. Standard 3 points to the urgency of assessing the cognitive and motivational attributes of diverse K-6 populations toward the goal of continual instructional improvement. Standard 3 incorporates the recommendations of applied assessment researchers who propose commonsense data use practices for teachers.

The past two decades have ushered in an information age in which internet systems and software have been fused into work, home and school. With internet access to the world's information base, schools are no longer challenged merely to enable students to acquire and express knowledge, but rather schools must enable students to be able to retrieve, synthesize, apply and utilize knowledge to solve increasingly vexing problems. Students do not need to learn to recite, but to generate new ideas, become critical thinkers capable of reasoning with information, recast old models into new frameworks, and dialogue with persons for a variety of purposes such as sharing perspectives or solving problems. Standard 3 expresses the expectation that teachers will nurture students who are curious, who seek to explain their worlds, and who initiate their own explorations of intriguing topics in work and community contexts. To this end, teachers deliberately design their classrooms to extend engagement in learning as a vital tool to foster higher achievement. Furthermore, continual engagement in learning is an educational aim in a society where citizens are knowledge seekers and critical information consumers.

To prepare all students for an information society, Standard 3 relies on an abundance of multidisciplinary research into motivation and engagement among students and adults. Drawing on studies from developmental science, educational psychology, psychometrics, motivational theories and qualitative methodologies, the American Psychological Association issued Twenty (20) Principles of PreK-12 teaching and learning, which are incorporated into Standard 3.

Planning extensively, continually, and collaboratively is vital to establishing an instructional program based on formative and summative assessment. To infuse the curriculum with systematic support for engagement in learning as well as cognitive scaffolding for complex disciplinary learning, effective teachers continually generate and revise long term and short-term plans for instruction. Planning is grounded in foundational knowledge, students' unique needs and innovative approaches to attaining school goals. Planning addresses multiple aims including assessment systems, cognitive goals, social/emotional supports, productive learning engagement, and adaptation to the potentials and challenges of every student.

Standard 3 is consistent with the roles of assessing, planning and engaging students for instruction in released by INTASC, the International Literacy Association, the National Board for Professional Teaching Standards, and the National Science Teachers Association. The widely adopted Core Content State Standards are directed to reading and writing in Science and Social Studies which suggests an emphasis on integrating proficiency in several disciplines. These complex objectives demand higher quantity and quality of assessing, planning and engaging all students during instruction.

Component 3.a Professional Knowledge Base

The rationale for Assessing in Standard 3 is rooted in the evidence-based perspective now prevalent in medical, environmental, social and educational policy practices of the US. From the FDA in medicine to the EPS in environmental and TPP in social arenas, governmental approval and appropriations of funds depend on scientific evidence of effectiveness. Education participated in this movement initially with Reading First requiring annual achievement testing for grades 1-6. In Reading First, such testing determined Federal funding for special needs programs and school innovations. At present, Race to the Top provides funds to States and Districts depending on documentation that student achievement is positively linked to school and/or teacher evaluation.

The widely adopted CCSS represent a new integration of disciplinary knowledge (literature, science, history) with the reading and writing competencies to gain proficiency in these domains. Such complex learning relies not only on cognitive skills, but also on students' beliefs, goals, values, motivations and engagements in schooling. Measurement of students' non-cognitive qualities is now offered as options in some districts.

In addition to assessment of reading, math and disciplinary knowledge, recent measurement challenges are to capture the non-cognitive predictors of educational success. Such qualities include motivation and engagement as recommended by the American Psychological Association, and traits such as conscientiousness, agency and perseverance as discussed in recent Handbooks of educational and psychological research.

In the educational environment of assessment and accountability, teachers serve a range of integral roles. Initially teachers are expected to be knowledgeable administrators of diverse assessments for State accountability testing, national assessment programs, school goal-setting, identifying exceptional students, providing reports to school administrators and informing local communities. Gathering data

for summative assessments, organizing and managing the data base responsibly and interpreting the outcomes are included within the scope a teacher's professional responsibility.

To gain a robust understanding of students' learning needs, teachers need to collect data from a variety of sources. Such sources include but are not limited to annual state assessments, district and school assessments, curriculum-based assessments, chapter tests, teacher observation of students' task performance and classroom projects. In most cases, teachers and their schools already are gathering these kinds of data. However, as assessment expands, carrying out data collection depends on considering the strengths, limitations, and timing of each data type and on preparing data in a format that can reveal patterns in student achievement. Moreover, by focusing on specific questions about student achievement, educators can prioritize which types of data to gather to inform their instructional decisions.

Multiple data sources are important because no single assessment provides all the information teachers need to make informed instructional decisions. For instance, as teachers begin the data-use process for the first time or begin a new school year, the accessibility and high-stakes importance of students' statewide, annual assessment results provide a rationale for looking closely at these data. Moreover, these annual assessment data can be useful for understanding broad areas of relative strengths and weaknesses among students, for identifying students or groups of students who may need particular support (19), identifying students who would benefit from enrichment or advancement, and for setting school goals.

Component 3.a refers to assessing consistent with INTASC standard 6 which states that the candidate "uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making." Component 3.a elaborates on this expectation to reflect current needs for summative assessment and data management, and explicit instructional improvement. Further, Component 3.a complies with the expectation in the APA report in 2014 on Assessing Teacher Education Programs which recommends that "assessments must be psychometrically sound, reasonably strongly related to one another across years, and aligned to the instructional expectations that teachers will be targeting. The linkage of tests across years will be a particularly challenging issue when transitions to new assessments are being made, as will happen soon in many states with the adoption of tests aligned with the Common Core State Standards."

Component 3.b Professional Knowledge Base

In light of assessment-based accountability in schools, teachers should adopt a systematic process for using data in order to bring evidence to bear on their instructional decisions and improve their ability to meet students' needs for cognitive advancement and socio/emotional development. The process of using data to improve instruction can be understood as cyclical. It includes a step for collecting and preparing data about student learning from a variety of relevant sources, including annual, interim, and classroom assessment data.

In addition to administering summative and formative assessments, teachers are now participants in a cycle of: (1) formative assessment, (2) instructional planning, (3) instructional implementation, (4) repeated formative assessment, and (5) communication of findings to teaching peers, and administrators. In this cycle, teachers identify students' academic strengths and weaknesses, evaluate the effectiveness of instructional sequences to improve achievement and set new goals for teaching. In this endeavor, teachers compose and administer classroom assessments to monitor students learning. For students whose learning is inadequate, teachers revise, re-create, or enrich new learning opportunities. A vital

phase of this process is providing detailed task-related feedback to students. Instructional innovation and monitoring are indispensable to effectively assuring the achievement of students from diverse income, language, ethnic and exceptional groups.

It is important to collect and prepare classroom performance data for examination, including examples and grades from students' unit tests, projects, classwork, and homework. The panel recommends using these classroom-level data sources, in conjunction with widely accessible non achievement data such as attendance records and cumulative files to interpret annual and interim assessment results.

An advantage of these data sources is that in most cases, they can be gathered quickly to provide teachers with immediate feedback about student learning. Depending on the assignment in question, they also can provide rich, detailed examples of students' academic performance, thereby complementing the results of annual or interim tests. For example, if state and interim assessments show that students have difficulty writing about literature, then examination of students' analytic essays, book reports, or reading-response journals can illuminate how students are accustomed to writing about what they read and can suggest areas in which students need additional guidance. An important disadvantage of classroom-level data is that the assignments, conditions, and scores are not generally comparable across classrooms. However, when teachers come together to examine students' work, this variability also can be an advantage, since it can reveal discrepancies in expectations and content coverage that teachers can take steps to remedy.

Teachers participate with peer teachers, instructional leaders and district coordinators in gathering, interpreting, and using data to guide instruction. This cycle of educational revision has been verified by a multistate, district-wide randomized experimental trial. Educators trained in the use of assessment data to plan, revise, innovate and implement interventions increased achievement markedly. It is a commonsense approach to continual improvement according to applied measurement specialists and educators tackling the challenges of school advancement. In standards proposed by INTASC, and such professional organizations as the ILA and NSTA, assessment in cognitive and non-cognitive domains is recognized as vital to education.

Component 3.b extends the INTASC standard 6 for assessment which states that the candidate "uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making." Component 3.b elaborates on this expectation by emphasizing and specifying the teachers' actions to improve instruction based on diverse assessment data. Component 3.b complies with the expectation in the APA report in 2014 on Assessing Teacher Education Programs which recommends that "assessments must be … aligned to the instructional expectations that teachers will be targeting….especially when transitions to new assessments are being made, as will happen soon in many states with the adoption of tests aligned with the Common Core State Standards." In addition, Component 3.b aligns with NAEYC standard for teachers assessing practices, stating that teachers should "use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence the development of every child."319

Component 3.c Professional Knowledge Base

Planning for instruction is a vital element in the widely used education cycle consisting of Plan—Teach—Assess—Evaluate. The consensus system for these educational processes entails four steps: (1) designing a system to attain adopted goals, (2) select and create instructional materials and methods, (3) administer common assessments, and (4) review findings and revise plans.

This education cycle appears at multiple levels including the classroom, school and district. At the school level excellence in education depends on coherence among these elements such that curriculum, instructional strategies, and assessments of students are coordinated among teachers within a grade level. Curriculum and assessments of students proceed logically from one grade level to the next and offer a progression of increasingly complex subject matter rather than repeating rudimentary material previously taught. Key student support programs, such as tutoring, remedial instruction, parent education, and opportunities for parent involvement focus consistently on the school's instructional goals

Teachers implement the framework with their peers and are evaluated largely on the basis of how effectively they use the common instructional framework. Professional development opportunities for staff are focused on the common instructional framework. Effectiveness of this has been documented by findings that students of teachers who were provided intensive professional development in math education increased achievement measurably.

Within the classroom setting, teachers plan and manage fundamental ingredients of instruction across disciplines. Within math, the ingredients have been described as "research-based principles of instruction: pre-teaching of prerequisite skills, teaching of math vocabulary, explicit instruction, selection of instructional examples, math models to build conceptual understanding, multiple and varied practice and review opportunities, teacher-provided academic feedback, and formative feedback loops." (Doabler) Because textbooks rarely contain all of these principles, teachers must plan to provide instruction that goes beyond the textbook.

In a majority of classrooms these instructional processes are differentiated in three or four tiers of academic capability. The first tier is nearly always defined as the level in which schools provide access to effective academic instruction and teaching strategies to all students. The second tier is usually designed to deliver targeted interventions that supplement the general education instruction for some students, specifically those students who demonstrate learning and achievement difficulties despite exposure to high-quality academic instruction. These students might be identified based on their scores on curricular or behaviorally appropriate screening measures, and/or through a lack of learning and achievement evidenced by progress monitoring or other formative curricular-focused assessments. The third tier is often intended for those few students who demonstrate inadequate responsiveness to second tier interventions. The fourth tier, if one exists, may provide a more clinical approach to single-student interventions. In early childhood education, there is an increasing "emphasis on alignment of early learning guidelines, assessment, curricular practices, and accountability in early education and care systems" (Snyder).

To meet expectations for accountability, teachers' planning interacts frequently with data on student learning. Following teachers qualitatively, investigators found that "instructional change cycles assisted (teachers) in monitoring student performance, grounding instructional decisions in data, and enacting changes to practice." (Schnellert). However, creating and sustaining data-based instructional decision making is a challenge. Teachers have varying degrees of competency and confidence in the multiple processes of data identification and access, technology use, data analysis and interpretation, application: and application of data to instruction (Dunn).

A variety of student competencies rely on learner planning. For example, writing effectively depends on students' planning for audience, topic, sequencing and language structures. During writing instruction, a student with higher word reading abilities may benefit from a focus on advanced planning skills, whereas a student who is struggling with reading skills may need a different instructional emphasis. It is

possible that struggling readers may require increased exposure to narrative text to develop story schema, richer vocabulary, and better background knowledge" (Olinghouse) Teachers who model planning in their teaching may foster students learning about roles of planning in their academic competence.

Designing and planning for instruction involves addressing students motivational, social, emotional and physical strengths and challenges. *A Handbook on Motivational Interventions* showed with diverse samples of students that several instructional practices influence students' motivations and engagement in learning. Teachers who are sensitive to the needs and interests of primary students enable them to invest in literacy and math learning most deeply. Effective teachers go beyond achievement to supporting students' development of self-efficacy via self-regulation through (a) planning and using study time more effectively, (b) understanding and summarizing text material better, (c) improving methods of note taking, (d) anticipating and preparing better for examinations, and I writing.

Component 3 c for planning align with INTASC Standard #3: Learning Environments – "The teacher works with others to create environments that support individual and collaborative learning". Component 3 c aligns with this expectation and specifies that planning includes design for a sequence of goals, materials, methods, tasks, motivation supports and assessments that are adapted to student characteristics including previous achievement, language, and socio/motivational development. NBPTS Standard VII is "Planning for Development and Learning", which is addressed by Component 3.c which refers to selecting, designing and planning for effective sequences of vital ingredients of instruction that vary across disciplines of literacy, math, social studies, science and others.

Component 3.d Professional Knowledge Base

Component 3.d emphasizes planning for differentiation of instruction. Differentiation in teaching is fundamental to effectiveness because it refers to the process of adapting the complexity of the curriculum to the idiosyncrasies of the learners. Differentiation integrates the learners' qualities with the objectives, skills and materials implicit in the educational goals of the school and classroom. In a review of research on differentiated instruction, Valiendes (2015) stated that "Effective differentiated core instructional practices are considered to be the following: (1) the instruction planning based on constructivism learning theory, (2) the hierarchical order of learning activities, (3) the maximization of students' active participation in the learning process, (4) the reduction of teachers' talking time during teaching, (5) the variation of activities, (5) the opportunity for students to work at their own pace, (6) the personalized support that students receive, (6) the differentiation of activities according to students' interests and learning profile and (7) the continuous evaluation of students' achievement with a simultaneous and ongoing evaluation of the effectiveness of the learning process." When teachers assure that these adaptive processes are central to classroom interactions, students show increased achievement, active engagement in learning, and socio/motivational advances.

The rationale for planning differentiated instruction begins with the priority on teacher effectiveness for improving student achievement. By international comparisons, the US is achieving below competitive OECD standards, and is lower than about 15 nations in reading and math at grades 4 (PIRLS) and 9 (PISA). Within the US, achievement gaps between higher and lower income students are expanding at a shocking rate. Gaps between ethnic groups such as African American and European American have not decreased on NAEP since 1970 despite repeated reform efforts. A spectrum of investigations shows that the teachers' instructional effectiveness is the malleable factor most related to student achievement. To gain academic competence, students need expert teachers. In view of the increased need for raising student achievement, the increased need for differentiated instruction is self-evident.

Differentiation is vitally important due to the growing diversity of student populations in grades K-6. Most profoundly, rising income inequality in many US neighborhoods generates widening gaps in school readiness, school participation and parental involvement in education. Because lower income students have relatively low access to educational materials, transportation, extracurricular activities, mentoring and enriched environments (Putnam), they depend more than other students on adapted, differentiated teaching in their classroom settings. (Pianta).

Differentiated instruction refers not only to adapting the cognitive demands of the curriculum to students' cognitive competencies. Differentiation also addresses student social and motivational diversity. Students with few academic learning goals, low self-efficacy as learners, and undeveloped interests in subject matter require the adaptation of instructional objectives, materials, sequences and pacing. As Hispanic, Asian and African students increasingly populate our schools, the diversity of language, culture, academic knowledge, and special needs inevitably expand with in classrooms. These widening qualities of learners must be infused into learning processes in classrooms. Research shows that the students who are most at risk for academic disengagement for these reasons will benefit the most from differentiated teaching that embraces their characteristics and links instruction to them.

Differentiation and its planning in K-6 Elementary Teacher Preparation Standard 3 relate to INTASC Standard 2 which states that "The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards". While the INTASC Standard 2 refers to teacher understanding of individual differences, the CAEP K-6 Elementary Standard 3 specifies explicit planning for differentiated instruction which will exhibit classroom utilization of this knowledge. Within the NAEYC professional development system is Standard 4 which is "Using Developmentally Effective Approaches to Connect with Students and Families". Component 3 d affirms this principle and extends it to explicit expectations of planning instruction differentiated for diverse ages, characteristics and population

Component 3.e Professional Knowledge Base

An integral aim of Elementary education is the students' social, motivational and emotional development as participants in a community of learning. At school, students forge friendships with others, form cliques, relate to diverse individuals, accept or resist group norms and expectations for behavior, manage their emotions, coordinate their actions with those of others, and function as members of a community on a daily basis. Through classroom interactions, students accrue peer reputations as bully or victim, popular or rejected, class clown or teacher's pet, academically capable or not, leader or follower. Recent research on social processes in classrooms demonstrates that these naturally occurring interactions affect students' social, emotional, and academic learning.

Essential aspects of social interaction, motivational processes, and emotional growth that effective teachers promote are diverse yet interconnected. Motivational growth in elementary school entails the acquisition of attributes such as self-efficacy for learning, intrinsic motivation for academic topics and tasks, prosocial goals for helping or cooperating, and valuing academic knowledge. Students' involvement in classroom and school activities build feelings of bonding or identification with school. These motivations and bonds energize the most basic forms of participation (e.g., attending school, work preparation, responding to the teacher's directions) to student involvement in decision making in the school environment. Several studies have found that behavioral engagement variables in early elementary school are significant not only as factors in academic achievement but as predictors of later student completion and achievement.

Teachers' explicit practices, behaviors, beliefs and relationships build a context for students' acquisition of academically productive social, motivational and emotional qualities. Through high-quality relationships with teachers, students internalize beliefs and values about school and schoolwork, which may be transferred to other academic settings. In positive relationships, students fulfill the need for belongingness which drives students' achievement behaviors, including their responses to challenge, self-regulation, participation, and strategy use. Positive relationships with teachers and peers promote not only healthy intellectual functioning but also positive feelings of self-worth and self-esteem which are related to sustained achievement motivation.

As a member of a school community, teachers participate in creating the school climate which contributes to students' community membership and academic success. "Safe, caring, participatory, and responsive school climate is associated with greater attachment to school and provides the optimal foundation for social, emotional, and academic learning. One of the fundamentally important dimensions of school climate is relational and involves how "connected" people feel to one another in school, which points to the importance of teacher-student relationships. School climate also promotes meaningful student learning by increasing student motivation to learn. Activities like community service and debates enhance the learning environment by providing students opportunities to actively participate in the learning process and construct their own knowledge of social and government systems. Likewise, positive school climate promotes cooperative learning, group cohesion, respect, and mutual trust. In an extensive literature review, Cohen stated that "In sum, research indicates that positive school climate promotes student learning, academic achievement, school success, and healthy development, as well as increased teacher retention."

Component 3.e is aligned with standards of several educational organizations. For instance, INTASC Standard 3: related to Learning Environments states that **"**The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation." In keeping with that expectation, Component 3 e explicitly states that effective teachers form positive relations with students based on knowing, caring, trusting and respecting students and collaborating with them in building classroom norms for social and individual behaviors that foster community participation. INTASC further states in Standard 7 that **"**The teacher plans instruction (by using) knowledge of learners and the community context." Component 3.e allies with this expectation by stating that teachers specifically plan with students to co-construct a classroom community that fosters mutual affirmation and academic learning. The NBPTS for Early Childhood Generalist includes three standards consisting of Standard VI–Managing the Environment for Development and Learning; Standard VII–Planning for Development and Learning; Standard VIII- Implementing Instruction for Development and Learning. Component 3 e confirms and integrates these with an emphasis on teacher-student relationships, student connectedness to peers and school, and student identification with school through active engagement in academic and extracurricular activities.

Component 3.f Professional Knowledge Base

Students' active engagement in schooling is a major energizing force for academic achievement. Students' quality and quantity of engagement in learning increases achievement across countries, economic disparities and classrooms. According to international assessments, high performing countries in Asia and Europe surpass the USA in students' depth and breadth of engagement in learning. When higher and lower economic groups within the USA are equated for students' amounts of learning

engagement, they become identical in achievement. Engagement in reading mediates gender differences in literacy achievement worldwide.

Engagement is the time, effort, persistence and resilience in learning. It is composed of behavioral (doing the work), mental (cognitive processing), and motivational (goals, beliefs and dispositions) aspects. Such involvements in learning are reciprocal with school achievement. In a spiral, engagement and achievement fuel each other; inevitably the spiral may be downward as well as upward.

Rooted in students' motivational systems, engagement is elaborated in several theoretical approaches including Self-Determination theory, Expectancy Value theory, Socio Cognitive theory, Socialization theory and Activity theory. According to these frameworks, a spectrum of motivations fosters higher academic engagement. Collectively, these motivations include: self-efficacy (confidence), intrinsic motivation (enjoyment), social motivation (prosocial goals), mastery goals (desire to understand), valuing (believing in the benefits), expectations (forecasting achievement) and identification (seeing oneself as a learner). Beginning with parenting, these motivations are nurtured in primary grades by teachers. Motivations differentiate and elaborate throughout schooling; and their associations with engagement and achievement increase as students progress from K-12.

Teachers and classroom contexts have remarkable impacts on students' motivations and engagement in learning. A prominent force in fostering engagement is the teacher whose beliefs, values, goals, behaviors and practices impact their students daily. Teachers create positive conditions for engagement when they interact with students in ways that students believe will help them. A spectrum of specific teacher actions impact students including: being sensitive to student interests, providing opportunities for self-expression, giving choices about learning, arranging academic social interactions, emphasizing meaning-making, assuring relevance of learning goals, providing explicit guidance and feedback on complex tasks, and linking learning materials to student interests.

Research documenting that these educational practices build engagement is drawn from correlational studies and/or structural equation models, experiments in controlled settings, classroom experiments at the primary, intermediate, and secondary levels. Qualitative inquiries have also been conducted in school and community contexts. Furthermore, these engagement-generating practices were recommended by panels convened by the Institute of Education Sciences for grades K-3, intermediate grades of 5-8, and the American Psychological Association.

The roles of teachers in affording explicit guidance in engagement for learning and providing emotional support for students' motivational development are represented in the standards recommended by INTASC, the ILA, NSTA and Middle School Association as well as the NAEYC. For example, INTASC states that it is expected that candidates are able to support individual and collaborative learning, encourage positive social interaction, promote active engagement in learning, and facilitate motivation. Component 3 f expands on this by specifying instructional practices such as "assess and build students' motivations and engagement in learning by forming explicit plans to share control with students, make school learning relevant, sustain collaborative activities, regulate cognitive challenge, link academic work to learners' interests, and assure that students perceive the personal benefits and values of school learning." The NAEYC Standard 4 for initial teacher competencies states that candidates "use a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with students and families and positively influence each child's development and learning. Components 3.f and 3.e are consistent with this while highlighting research-supported teacher practices that foster socio/emotional development, engagement and learning.

Standard 4 Professional Knowledge Base

Research over the last decade has demonstrated that no in-school intervention has a greater impact on student performance than an effective teacher (Master, Loeb, & Wyckoff, 2014; NCATE, 2010). This has led to calls for improving teacher preparation to ensure that program graduates are well prepared to educate all students—including those from increasingly diverse socio-economic, ethnic, linguistic, and ability/disability backgrounds—to achieve high learning outcomes that ensure that they are college and career ready (NCATE, 2010). This has placed unprecedented demands on teacher preparation programs to produce program graduates who are "able to balance a focus on academic learning with an ability to respond to each student's cognitive and social-emotional developmental needs" (NCATE, 2010, p. 1). These program graduates must be "well versed in their curricula, know their communities, apply their knowledge of child growth and development, use assessments to monitor student progress and effectively engage students in learning" (NCATE, 2010, p. 1).

Given this context, the NCATE (2010) report *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers* called for teacher preparation programs to "shift away from a norm which emphasizes academic preparation and course work loosely linked to school-based experiences. Rather, (teacher education) must move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses." (p. ii). The NCATE report goes on to state "Candidates must develop a base of knowledge, a broad range of effective teaching practices, and the ability to integrate the two to support professional decision-making" (p. 5). This standard and components were written with these ideas and related challenges at the forefront. The components included in this standard are intended to ensure that program graduates are classroom ready, i.e., they are skilled in the use of key instructional practices that are needed to effectively address the needs of the diverse range of students who enter their classrooms.

Related to this emphasis on clinical practice, this standard was also influenced by the work of several scholars in teacher education who have written over the last decade about the need to redefine the curriculum of teacher education to more closely focus on instructional practices that teachers use frequently in classrooms, and that that have been proven effective in improving student learning (Ball & Bass, 2003; Ball & Forzani, 2009; Davis & Boerst, 2014; Grossman, Hammerness, & McDonald, 2009; Kucan, Palincsar, Busse, Heisey, Klingelhofer, Rimbey, & Schutz, 2011; McDonald, Kazemi, & Kavanaugh, 2013; Windschitl, Thompson, Braaten, & Stroupe, 2012). These scholars have called for the development of "High Leverage Practices" that form the core curriculum of practice based teacher preparation programs (e.g., Davis & Boerst, 2014), and that closely connect to and complement the recommendations from the NCATE (2010) report. This preparation is intended to produce candidates who are learner-ready with the necessary skills to demonstrably improve achievement outcomes for all students (CAEP, 2014; CCSSO, 2012).

While considering this context, this standard and related components drew on and extended previous standards, including those developed by the Council of Chief State School Officers (2011) (CCSSO–Interstate Teacher Assessment and Support Consortium (InTASC) standards); the Association for Childhood Education International (2007); the National Association for the Education of Young Children (NAEYC) (2009); the Council for Exceptional Children (2012); the International Literacy Association (ILA); the National Science Teachers Association (NSTA); the National Council for Social Studies (NCSS); the National Council of Teachers of Mathematics (NCTM); and the National Board for Professional Teaching Standards (NBPTS). This was done to ensure that this standard and its related

components are well aligned with other important sets of standards that are widely used by professional organizations and state education agencies. However, it was also recognized that given the current context in schools, as well as the need to improve teacher preparation and more fully ground these activities in clinical practice, these standards and components must extend beyond previous sets of standards in addressing critical instructional practices that could be used by beginning teachers to improve the performance of all students. To reflect this need, components and related instructional practices were chosen that focus directly on instructional practice, are frequently used in teaching, are broadly applicable in any content area, and are supported by research to foster improved student achievement (McDonald, Kazemi, & Kavanaugh, 2013).

Finally, this standard was influenced by recent reviews of research related to critical factors that influence student learning. One of these documents was published by the American Psychological Association (2015) and titled *Top 20 Principles from Psychology for preK-12 Teaching and Learning.* This document summarizes key insights from psychological science related to effective classroom instruction and addresses the application of these principles to classroom practice. A second document, *The Science of Learning* was published by Deans for Impact (2015) and was written to "summarize the existing research from cognitive science related to how students learn, and connect this research to its practical implications for teaching and learning" (p. 2). These documents and additional research based on teacher education and student learning were used to guide the selection of components for this standard.

Component 4.a Professional Knowledge Base

The InTASC Standards address the need for all teacher candidates to learn to use a variety of instructional practices. These standards support instructional design that considers the strengths, interests, and needs of every learner. Planning of instruction then "focuses on using a variety of appropriate and targeted instructional strategies to address diverse ways of learning" (CCSSO, 2008, p. 9). Similarly, the NBPTS states that teachers should use multiple teaching methods to meet their goals. More specifically, "teachers are attuned to the diversity that is found among students and develop an array of strategies for working with (these students)" (NBPTS, 2002, p. 9). In addition, the standards of the Council for Exceptional Children (2012) emphasize the use of a "repertoire of evidence-based instructional strategies" (p. 6.) to meet the diverse needs of students.

When selecting or designing instructional strategies it is important for the teacher to consider the needs of the whole child including social and emotional learning (Goleman, 2005) and their intersection with academic learning. In planning a curriculum that meets the needs of the diverse learners Wiggins and McTighe (2005) recommend an approach that first identifies desired learning outcomes, then determines acceptable evidence, and ultimately plans and executes instructional experiences using a "blend" of instructional strategies that include direct instruction, inductive methods, cooperative learning, and individual activities.

Candidates use a variety of instructional practices to differentiate instruction based on the diverse backgrounds, knowledge, and characteristics of each child. Candidates use knowledge of learning theory, their own students' differences, and data from informal and formal assessments to design and implement a variety of instructional practices (e.g., direct instruction, inquiry-based learning, project based learning) that facilitate effective learning experiences and invite all children to become active and collaborative partners in the learning process. In doing so, candidates consider education of the whole child by fusing social and emotional learning with the development of academic skills.

As candidates use a variety of instructional practices, they must employ a wide range of educational resource materials that can be readily adapted to differentiate instruction to meet the needs and interests of every child. Candidates use instructional strategies that elicit and build upon children's prior knowledge, while modeling, instructing, facilitating, coaching and providing feedback to children, in order to foster engaged learning, cultivate intrinsic motivation, and nurture the development of healthy dispositions that lead to lifelong learning.

Candidates design instructional practices that encourage children to take ownership in the learning process. This includes providing opportunities for each child to respond to relevant feedback from teachers and peers, to connect new learning with past experience, and to respond to content through different methods of communication, both oral and written, through the arts, and through the use of current digital technologies. Candidates' practices should present opportunities for children make their own choices and the requisite skills that lead to problem solving, and critical and creative thinking. Candidates encourage children to probe content material by peer collaboration, constructive questioning, and comparing information from a variety of source materials. Candidates also design learning experiences that are intended to promote deepened understandings that help children grapple with big ideas and then apply what is learned to novel situations.

Learners build bridges between previous knowledge and new knowledge and they do so in a variety of different ways. In a report published by the Committee on Developments in the Science of Learning (NAP, 1999) the creation of learner centered environments is emphasized to ensure that learners develop motivation intrinsically while remaining active and engaged in the learning process. An environment that includes a variety of strategies can promote the learning of all students that includes understanding content and conceptual knowledge, problem solving and critical thinking, as well as meta-cognition and transfer of new learning to novel situations. Active learning environments present options and choice, encouraging students to develop ownership and responsibility of their own learning (Wilson, 1996).

Research from a range of sources supports the need for candidates to learn to use a variety of effective instructional strategies. For example, Borich (2014) points out that reviews of research (e.g., Marzano, Pickering, & Pollock, 2004) support the perspective that one of the key qualities of an effective teacher is skill in using a variety of effective instructional strategies to address the varied instructional needs of a broad range of students. Furthermore, research has supported the perspective that several instructional practices (i.e., direct instruction, lecture-discussion, guided discovery, cooperative learning) have been shown to be effective when addressing certain purposes for instruction and identified student needs (Eggen & Kauchak, 2013). For example, the use of instructional practices that utilize direct instruction have been shown to be highly effective in improving learning in reading, writing, and mathematics for students who are struggling to learn (Gersten et al., 2009a; Gersten et al., 2009b; Mason & Benedek-Wood 2014).

Component 4.b Professional Knowledge Base

Drawing on Interstate Teacher Assessment and Support Consortium (InTASC), The International Literacy Association (ILA), The National Science Teachers Association (NSTA), The National Council for Social Studies (NCSS), The National Council of Teachers of Mathematics (NCTM), National Association for the Education of Young Children (NAEYC), and National Board for Professional Teaching Standards (NBPTS), a cohesive sequence of lessons is recommended for student learning that requires careful scaffolding.

The Interstate Teacher Assessment and Support Consortium (InTASC) expects that teachers can link content knowledge and the application of that knowledge so that students develop critical thinking and problem-solving skills. The expectation is such that the teacher designs instruction to meet the needs of students across multiple learning opportunities.

Similarly, the National Board for Professional Teaching Standards expects that teachers will be able to engage students in challenging instructional tasks. These tasks require critical thinking and expand the current knowledge base of students. These instructional tasks are not completed in a single sitting but require multiple opportunities for students to be successful. Similarly,

The International Literacy Association (ILA, www.literacyworldwide.org) acknowledges that teachers must create routines, so that instructional groupings are successful. These routines allow for teachers to meet with students to provide instruction over the course of several days. The National Science Teachers Association (NSTA, www.nsta.org) provides a model for developing lesson units. They begin by working backwards where the teacher considers the ultimate expectations or goals for learning and then crafts lessons to meet these goals. Similarly, the National Council for Social Studies (NCSS, www.socialstudies.org) suggests that teachers plan instructional sequences based on the end learning goal. The National Council of Teachers of Mathematics (NCTM, www.nctm.org) recommends that teacher create a coherent curriculum where students past experiences and knowledge lead to new knowledge. Finally, the National Association for the Education of Young Children (NAEYC, www.naeyc.org) states in their position statement document that teachers' plans and organization support the learning of all students through carefully sequenced lessons.

Well-sequenced lessons benefit the teacher and students as content is focused on instructional needs that require more than one lesson to be complete. A sequenced set of lessons is guided by clear learning goals and objectives where each lesson builds upon the previous one. The teacher carefully scaffolds each lesson within the sequence so that easier concepts serve as the foundation for more difficult ones.

A cohesive set of lessons allow teachers to scaffold student learning. For example, teachers provide more support to students in early lessons and then gradually release this assistance, as students more fully understand a topic, process, or strategy. Further, teachers work with students to bridge learning gaps or confusions surrounding a topic, process, or strategy through multiple, carefully sequenced lessons. The teacher may use a variety of scaffolding strategies across lessons; such as, simplifying the complexity of a topic and then building understanding and sophistication over time, sharing multiple ways to understand a topic, and/or providing more explicit instruction in early lessons as students build prior knowledge (Fisher & Frey, 2009; Marzano, 2004).

A well-researched model for lesson sequencing comes from CORI (Guthrie et al., 1996). CORI provides instruction that is linked between science and literacy. CORI has four distinctive parts to instruction that occur over multiple days. On the first day, students observe as they participate in a hands-on experience. The teacher guides discussion and helps students create questions that will guide further instruction. The second part involves students searching and retrieving information to answer their questions. They use print and digital sources. During this process, they consolidate what they know and organize their information. The third part is focused on comprehension of what they have discovered with students working together to discover any conflicting information. The fourth part involves students sharing what they have learned with others through PowerPoint presentations, illustrations, drama, plays, and so on.

Component 4.c Professional Knowledge Base

The use of the components of explicit instruction to support student learning is emphasized across InTASC Standards 2, 4, 6 and 8. These standards highlight building on learners' prior knowledge and skills, addressing misconceptions in a discipline that interfere with learning, providing models and processes that guide learners in examining their thinking and learning, and providing multiple models and representations of concepts and skills for learners. Explicit instruction is also emphasized in CEC (2012) Standard 5, as candidates use explicit instruction with modeling and guided practice to assure acquisition and fluency related to disciplinary content. Finally, the NBPTS emphasizes components of explicit instruction, as candidates develop multiple pathways to knowledge, understand common student misconceptions related to disciplinary content, model learning effective learning strategies, and build on previous student learning.

Explicit instruction is used to ensure that all students learn critical academic content, and to make clear what a learner needs to do or think about while learning this content. The use of explicit instruction in elementary classrooms is essential in providing access to all children to the important ideas and practices in a given disciplinary area. For example, each disciplinary area includes a set of facts that, if committed to long-term memory, aids problem solving (Deans for Impact, 2015). "Making content explicit through carefully paced explanation, modeling, and examples can help ensure that students are not overwhelmed" (Deans for Impact, 2015, p. 3) as this learning occurs. Explicit instruction also allows teachers to enact research-based principles of effective instruction, including increased opportunities to learn, promoting high levels of success, increasing content coverage, scaffolding instruction, and addressing levels or forms of knowledge (e.g., declarative, procedural, and conditional) (Archer & Hughes, 2011). Finally, explicit instruction is designed to ensure that student learning builds on what they already know (APA, 2015). For example, teachers use explicit instruction to make students "aware of the discrepancy between their own thinking and correct curricular material or concepts" (APA, 2015, p. 8).

Explicit instruction has been shown to be particularly effective for students who are struggling to learn disciplinary content. For example, students who are struggling to learn to read, including English Language Learners and students with disabilities, benefit from explicit instruction (Baker et al., 2014; Connor, Jakobsons, Crowe, & Granger, 2009; Gersten et al., 2009b; Swanson & Hoskyn, 2001). Similarly, syntheses of research on teaching mathematics to low achieving students (Baker, Gersten, & Lee, 2002) and to students with disabilities (Gersten, et al., 2009a) have revealed that the use of explicit instruction significantly improved math achievement of students who were struggling to learn this content. Finally, explicit instruction also has been shown to improve the skills of students who are struggling to learn to write (Graham et al., 2012; Mason & Benedek-Wood, 2014).

Component 4.d Professional Knowledge Base

The use of feedback to guide children's learning is emphasized in InTASC Standard 6 (CCSSO, 2011) as teachers provide students with effective feedback to guide their progress, reinforce student learning, and modify instruction. The InTASC standards further emphasize that teachers must understand the positive impact of effective feedback for learners, and know a variety of strategies for communicating feedback. Similarly, the CEC (2012) standards emphasize the use of formative assessment to make educational decisions, provide feedback to guide student learning, and identify supports and instructional or curricular adaptations needed to support student growth and development. Finally, for accomplished teachers, the NBPTS emphasizes the use of formative assessment to determine what

students have learned, provide feedback and guide the learning of students, and modify instructional practices be support the learning of all students.

Research supports the effectiveness of feedback that is used to guide the learning of children and increase their motivation, engagement, and independence, thereby leading to improved learning. Feedback informs children where they are with regard to a learning objective and provides them with direct support regarding what they need to do to learn. Several reviews of research have concluded that feedback has a powerful influence on learning and achievement (APA, 2015; Deans for Impact, 2015; Hattie & Timperley, 2007). These reviews conclude that effective feedback a) should be clear, specific, explanatory, and timely; b) is most powerful when it addresses a faulty interpretation of content and not a lack of understanding; and c) should inform the child regarding the goal of learning, what progress is being made toward the goal, and what should be done to make better progress. Furthermore, the timing and focus of feedback are important to its effectiveness (e.g., for students who are struggling and have limited understanding of content, the teacher should provide explicit instruction rather than feedback). Finally, research has shown that feedback is effective in improving achievement for children who are struggling to learn in reading (Gersten et al., 2009a); writing (Graham et al., 2013), and mathematics (Gersten et al., 2009b).

Component 4.e Professional Knowledge Base

Drawing on the Interstate Teacher Assessment and Support Consortium (InTASC), The International Literacy Association (ILA), The National Science Teachers Association (NSTA), The National Council for Social Studies (NCSS), The National Council of Teachers of Mathematics (NCTM), the National Association for the Education of Young Children (NAEYC), and the National Board for Professional Teaching Standards (NBPTS), teachers are expected to use multiple groupings of students for instruction, including whole class instruction.

InTASC standards support that teachers are exemplary managers of the learning environment and provide multiple forms of instruction that includes whole class groupings. Within the NBPTS standards, teachers are expected to group students based on need and one of these instructional groupings includes the whole class in instruction. During whole class instruction, teachers may demonstrate new ways of thinking about a topic or they may model or use direct instruction to foster skill or strategy learning. ILA suggests that teachers arrange their rooms to accommodate a variety of instructional groupings from whole class to individual student learning.

NCTM suggests that teachers use whole class instruction to establish clear mathematical goals for learning. NAEYC suggests that teachers develop strong language skills with students through a variety of student groupings. NCSS describes that a rich learning experience in social studies requires students to engage with compelling question that are supported with details. Teachers would model this kind of thinking with the whole class so that students could then ask and answer similar questions in small group settings. NSTA provides similar suggestions as those from NCTM where teachers model instruction whole class and then work with students as they explore or perform experiments in small groups.

Whole class instruction supports students in collaboratively investigating specific content, strategies, or skills. Teachers model and support students as they participate in conversation to achieve learning goals as well as to develop students' listening and speaking skills. For instance, teachers might model how to comprehend an informational text by sharing their thinking with students as they read a small segment of text. In mathematics, teachers might present a problem-solving strategy and share examples. Or in

science, a teacher might share the topic for exploration and how students are to participate, for example, keeping science notebooks (McLeod, Fisher, & Hoover, 2003).

Whole class instruction often involves explicit instruction. Swanson and Deshler (2003) noted that explicit, whole group instruction must involve a teacher identifying a goal and necessary background knowledge. Then the teacher models a demonstration, poses questions to students, and facilitates dialogue among students.

In literacy, whole class instruction is referred to as Tier 1 instruction and is part of a response to intervention model where Tier 2 includes small group instruction and Tier 3 requires intensive intervention. Each tier of instruction occurs daily.

The main issue centered on whole class teaching is that it is targeted instruction and that it is brief. It should not be the dominant grouping for instruction for students. The goal of whole class grouping is to model for students and then to provide opportunities for students to engage in teacher-guided practice.

Whole class instruction is centered on classroom discussion. Johnston (2012) describes exemplary classroom instruction as dialogic where students and teachers share multiple interpretations and perspectives. Classroom discussion most frequently opens up uncertainty where students use details or facts to clarify confusions.

Most importantly, classroom discussions allow students to improve their communication and reasoning skills. In high quality discussion, students make eye contact with peers, speak audibly, and provide succinct explanations that build on the discussion points of others.

Component 4.f – Professional Knowledge Base

Drawing on the Interstate Teacher Assessment and Support Consortium (InTASC), The International Literacy Association (ILA), The National Science Teachers Association (NSTA), The National Council for Social Studies (NCSS), The National Council of Teachers of Mathematics (NCTM), and the National Board for Professional Teaching Standards (NBPTS), teachers are expected to use multiple groupings of students for instruction, including small group instruction.

InTASC identifies that teachers must create learning environments that support the learning of all students. Within these small groupings, students work collaboratively and productively to meet learning goals. Within the NBPTS standards, teachers are expected to group students based on need and to differentiate instruction. This instruction is based on students' current progress toward reaching an instructional goal. NCTM suggests that effective teaching involves grouping students to help students engage in productive struggle with mathematical ideas that are most efficiently dealt with in small groups. NSTA recommends a variety of groupings to support students as they acquire scientific knowledge. ILA targets the importance of small group instruction for the literacy learning of all students. All of the professional educational groups expect that students are grouped for some of their learning to ensure that all students learn the expected content. Finally, NAEYC honors the importance of developing consistent relationships with students that are fostered within small group settings.

Small group instruction provides the vehicle to differentiate instruction for students. The groupings are a result of formal and informal assessment. As teachers work with small groups of students, they informally assess the group's effectiveness in meeting the learning goal. Instruction is then adjusted to more efficiently meet the learning goals of students. Thurlow, Ysseldyke, Wotruba, and Algozzine (1993) reported that smaller groups of students increase the likelihood of academic success, provide

individualization of instruction, reduce off-task behavior, and facilitate teachers in providing feedback to students. Vaughn et al. (2003) determined that working with small groups of students in literacy resulted in struggling readers and ELL students being successful and showing achievement gains.

Small groups can be configured as heterogeneous or homogeneous. In heterogeneous groups, students may be working on projects or activities where all students contribute to the final outcome. Homogeneous groups are specifically configured to meet the short-term, learning needs of students (Cohen & Lotan, 2014). Once the learning expectation is achieved, the groups are reformed with different students who have different learning needs.

Component 4.g Professional Knowledge Base

These practices are consistent with InTASC Standard 2b which asks the teacher to make "timely and appropriate provisions [and] pacing for individual rates of growth . . . learning differences or needs." Furthermore, InTASC Standard 8(d) addresses the need for the teacher to vary her/his instructional role based on the content and purpose of instruction and needs of learners. This includes "using a variety of appropriate and targeted instructional strategies to address diverse ways of learning (including) to incorporate new technologies to maximize and individualize learning. Similarly, the NBPTS standards emphasize the need for the candidate to recognize individual student differences and take these differences into account during instruction.

Candidates understand that the purpose of individual instruction is to provide additional instructional support that is efficient and effective for an individual child who is not making sufficient progress or does not grasp a particular aspect of academic content. This type of instruction can be used to ensure that students have learned basic skills, or to enhance the development of complex knowledge. Candidates demonstrate this knowledge by using individual instruction to help a child clarify confusions, develop fundamental strategies or skills, or develop complex understandings of content.

Candidates provide individual instruction to children based on formal and informal assessment, and the child's characteristics, background, knowledge of content, and/or special needs. They use an appropriate, effective instructional strategy during individual instruction (e.g., direct instruction, structured tutoring). Informed by a learner's Zone of Proximal Development (Vygotsky, 1978), the candidate chooses a level of assistance that will support the learner towards gradual independence. Targeted individual instruction gives the teacher an opportunity to craft a specific intervention based on a student's particular area of need or interest and can help to support basic understanding or to accelerate learning.

Candidates also construct other individual learning opportunities to focus on providing occasions for child inquiry or project-based learning. They use explicit instruction, appropriate feedback, and guided practices during individual instruction, as appropriate. Candidates regularly monitor each child's progress and adjust their instruction accordingly. Unlike small groups, individual instruction is centered on a single child working with the candidate.

Extensive research supports the use of individual instruction in improving student learning. For example, teacher tutoring has been shown to be highly effective for students who are struggling to learn to read (Gersten et al., 2009b; Good & Brophy, 2008; Holliman & Hurry, 2013; Slavin, Lake, Davis, & Madden, 2011).

Professional Knowledge Base

Component 5.a Professional Knowledge Base

Candidates understand that "teacher learning becomes more active through experimentation and inquiry, as well as through writing, dialogue, and questioning (Danielson, 2009). Candidates use a wide range of content and pedagogical knowledge, coupled with collaborative strategies, to create elementary lessons based on the most current research in order to maximize their students' potential.

Candidates understand that successful collaborations require sustained and ongoing motivation. They understand "that the achievement of difficult goals entails not only talent but also the sustained and focused application of talent over time" (Duckworth, Peterson, Matthews, & Kelly, 2007). Candidates frequently reference professional resources and organizations to continually improve their knowledge of elementary students' curricular and social needs including, but not limited to: ILA, NAEYC, NCSS, NCTE, MCTM, NMSA, and NSTA. Elementary Education candidates realize that "reflecting on teaching with colleagues provided opportunities to ponder the obligations of teaching and provided greater access to theories, emerging practices, and promising research findings that can help them develop their professional expertise" (NBPTS, 2012, p.97).

Component 5.b Professional Knowledge Base

Self-study has developed into a powerful way for teacher educators to understand their own practices and the process of learning to teach (Loughran, 2005). The concept of self-study grew out of the teacher educator's desire to critically investigate and analyze their practice in teaching and mentoring students through collaborative reflections, applying reflective questions rather than adopting traditional strategies of guiding and advising (Loughran, 2005*).* Self-study stimulates teacher educators to continuously pay attention to their teaching and their students' learning, which are high primacies, intrinsically interrelated and constantly interacting with one another (Mukeredzi, 2014). It focuses on how teaching and learning experiences encourage teacher educators to see their practice in a different way (Bullock, 2012).

Polly, McGeeb, Wanga, Martin, Lambert, and Pugalee (2015) in their work ― Linking professional development, teacher outcomes, and student achievement ― cited the work of several authors (mentioned here) as part of their theoretical framework and whose work centered on learner-centered professional development. These are:

- large-scale research syntheses of PD research (Darling-Hammond et al., 2009, Penuel et al., 2007 and Yoon et al., 2007) which has brought to light distinguishing characteristics of effective PD programs.
- Further analyses of research on PD which has led to an alignment of research-based characteristics of effective PD programs and the American Psychological Association's Learner-centered Principles (APA, 1997), which resulted in clarifying the construct of Learner-centered Professional Development ([LCPD]; (Heck et al., 2008, NPEAT, 2000 and Polly and Hannafin, 2010).

Polly et al. stated that learner-centered professional development calls for educators to, a) focus on student learning data to identify the focus of activities, b) provide active learning experiences that give educators some ownership of their activities, c) simultaneously develop knowledge of content and pedagogy, d) provide ongoing support that includes collaboration with colleagues and more

knowledgeable professionals, and e) support teachers' efforts to implement new pedagogies in their classroom and support reflective activities that allow teachers to process their learning.

Professional development provides comprehensive, sustained, and intensive learning opportunities to expand the professional knowledge base available to teachers and to engage them in an ongoing process of critically examining their teaching practices to find new and more effective ways to improve student learning. Professional development needs to address both an individual teacher's goals for professional growth and the larger organizational learning priorities for school improvement. Professional learning engages teachers in working with others to deepen their content knowledge, sharpen their instructional skills, and develop their ability to use data for meaningful decision-making. Thus, professional learning is an ongoing, job-embedded process that supports transfer of newly learned knowledge and skills to practice. Such learning also needs to be continuously evaluated and refined (InTASC Standards 2011).

The candidate understands that the professional development process is based upon an understanding and knowledge of how to use a variety of self-assessment and problem-solving strategies to analyze and reflect on his/her practice and to plan for adaptations/adjustments. The candidate knows how to build and implement a plan for professional growth directly aligned with his/her needs as a growing professional based on school and system-wide priorities and using feedback from candidate evaluations and observations, and data on learner performance. The candidate sees him/herself as a learner, continuously seeking opportunities to draw upon current education policy and research as sources of analysis and reflection to improve practice. The candidate understands the expectations of the profession including codes of ethics, professional standards of practice, and relevant law and policy (InTASC Standards, 2011).

Component 5.c Professional Knowledge Base

It is widely acknowledged that pre-service education is an essential prelude to effective professional practice for educators. However, continuing education and a career-long commitment to professional development are also critical to the currency and quality of practice (Friedman and Phillips, 2004; Ingersoll, 2011). A multitude of research studies affirm that an informed "community of practice" (such as the availability of professional learning communities in schools) support effective teaching practices and provides a context for successful, sustained professional development (Stoll, Bolam, McMahon, Wallace & Thomas, 2006; Webster-Wright, 2009). A recognition of the importance of career-long professional development, and the understanding of how best to access and engage such resources, is so important that its focus must begin during the pre-service educator preparation program.

Professional learning communities include both formal and informal structures designed to assure that elementary school students not only are taught by their teachers but that they also learn from the instructional experiences in which they participate (Dufour, 2015). Research has affirmed that collaboration and engagement with both peers and mentors and access to information about cutting edge pedagogical practices enhance the ability of educators to promote the learning and development of their students (Vescio, Ross and Adams, 2004). As such, the popularity and prevalence of professional learning communities have grown as the focus on the professional development of educators increasingly has been emphasized.

This standard is built on a foundation of research suggesting that career-long professional development that is ongoing, sustained and evidence-based is critical to assuring high quality instructional programs and cutting-edge pedagogical practices in our nation's schools (Blank & de las Alas, 2009; Darling-Hammond, 2012). Professional development can take many forms, and have multiple foci (Shaha,

Gossett and Elsworth, 2015). Educators seek formal and informal forums for professional development while participating in a wide array of programs, activities and initiatives focused on their development including active involvement in professional associations and other such networks. An important common component is for practicing educators to have available and accessible current information and the opportunity to enhance their pedagogic skills. A responsibility of educator-preparation programs is to provide candidates with the knowledge, skills and abilities necessary to engage in meaningful career-long professional development.

C.2.4 References for Professional Knowledge Base

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C.2.4 – Developing Consensus

The 2007 revisions of Elementary Teacher Standards were conducted by the Association for Childhood International (ACEI), the recognized SPA for Elementary Education using guidelines adopted by NCATE. On August 1, 2015 ACEI ceased to function as the Elementary Teacher Preparation Program SPA. CAEP has assumed responsibility for developing program review standards using the *Guidelines for Program Review*.

Because K-6 Elementary Education is a generalist field comprised of several developmental and content constituencies, CAEP has taken several steps to ensure development of consensus. First, it appointed a Steering Committee for the development of the K-6 Elementary Teacher Preparation Standards with consensus development as one goal. The 19-member Steering Committee includes racial, geographic, and professional diversity. The members are:

Eric Anderman
Bill Badders
Diane Barone
Kim Boyd
Ava Belisle-Chatterjee (Co-Chair)
Natalie Crist
Andre Demko
Francis “Skip” Fennell
Karen Geisler
Mark Ginsberg
John Guthrie
John M. Johnston (Co-Chair)
Leah Lembo
Donna Mahar
James McLeskey
Kathleen Paliokas
Jennie Rakestraw
Vivian Vasquez
Mike Wallace

Together these 19 individuals include representatives from the Association for Childhood Education International, Council for Exceptional Children, International Literacy Association, National Association for the Education of Young Children, National Council of Teachers of English, National Council for the Social Studies, National Council of Teachers of Mathematics, National Science Teachers Association, American Association of Colleges for Teacher Education, American Federation of Teachers, Council of Chief State School Officers, National Board for Professional Teaching Standards, National Education Association.

Moreover, they include Nationally Board Certified elementary classroom teachers, school administrators, Grade K-3 and 4-6 teacher educators, educator preparation provider deans, content area specialists, Special Education faculty, specialized professional association (SPA) representatives, developmental scientists, teacher union representatives, teaching/learning researchers, and experienced standards developers (InTASC, NBPTS, and SPA standards).

C.2.4 - Soliciting and Responding to Comments

CAEP also aimed at developing consensus around new Elementary Teacher Standards in several other ways. First, during the process of developing the Elementary Standards, some Task Force members made presentations at state and national specialized professional conferences receiving feedback from constituencies that was transmitted to the Task Force. Second, when the first public draft of the standard titles, standard statements, and components was completed, the draft was posted on the CAEP website and the public was invited to respond via an online survey. In addition, related professional organizations were explicitly invited to review and respond to the draft standards document in order to avoid unnecessary duplication or overlap of standards.

In addition to basic demographic questions regarding employer and current position, survey respondents were asked to respond by rating on a five-point scale (1=Disagree, 3=Somewhat Agree, 5=Agree) to each of the following items for each of the proposed five K-6 standards.

1. The standard as a whole describes a critical aspect of beginning Elementary teacher knowledge and skill.
2. The Key Components for this standard provide a clear statement of what beginning Elementary teachers should know and be able to do at the time they complete their initial teacher preparation program.
3. The standard reflects beginning level practice for Elementary teachers.
4. The standard as a whole is forward thinking in describing what beginning Elementary teachers should know and be able to do.

Survey respondents were also asked to make comments on each standard.

The survey was completed by at least 141 respondents, though not all answered each prompt. Survey responses were received primarily from respondents employed at traditional and on-line colleges and universities, foundations, teacher's organizations, and public schools. Survey respondents described their current position as P-12 classroom teacher (18=14%), school administrator (10=8%), State

Department of Education (20=15%), higher education teacher educator (102=77%), SPA representative (13=10%), and CAEP member organization (17=13%).

Feedback was also received from the CAEP Board, the CAEP State Partnership and Content Area Committee (the Board's earlier standing committee before the SPA Standards Committee was formed) as one-year-out feedback.

In addition, feedback was received from over 100 institutions of higher education, 17 school districts, and at least 8 identified SPAs, including American Association of School Librarians (AASL), National Association for Gifted Children (NAGC), National Association for the Education of Young Children (NAEYC), National Council of Teachers of Mathematics (NCTM), Association for Childhood Education International (ACEI), International Literacy Association (ILA), and the National Association of School Psychologists (NASP). Responses were also received from American Association of Colleges for Teacher Education (AACTE), Association of Mathematics Teacher Educators (AMTE), National Council on Teacher Quality (NCTQ) and the Flamboyan Foundation. Content areas were also represented in the feedback from organizations and individuals, including Elementary Education, Early Childhood Education, Special Education, English Language Arts, Mathematics Education, Science Education, Social Studies Education, Music Education, Education Leadership, English as a Second Language, Bilingual Education, Multicultural Education, and Health and Physical Education.

C.2.5 - Potential Overlap with Other SPA Standards

The K-6 elementary school years do not possess a unique development framework as is the case with Early Childhood (Birth through age eight years) or Middle Childhood (8-12 years), nor does the field have a unique content area as is the case with literacy, math, science, social studies and the like. Early childhood (usually defined as birth to year 8) is a developmental stage characterized by tremendous physical, cognitive, socio-emotional, and language development. Middle childhood (usually defined as ages 8 to 12) is a stage time when children develop foundational skills for building healthy social relationships and learn roles that will prepare them for adolescence and adulthood. The grade levels included in "middle level" are determined by middle level teacher licensure regulations in each state, for example grades 4-9, 5-8, 6-9. As an artifact of state licensure policy, the K-6 Elementary school years straddle these two developmental stages. In addition, K-6 Elementary Education has acquired multiple content area responsibilities that are not unique to Elementary education but are shared with multiple content areas.

Educator preparation programs in each of the two developmental stages are represented by SPAs with CAEP approved program standards: Early Childhood education by NAEYC (2010) and Middle Level education AMLE (2012). Necessarily then, the 2018 K-6 Elementary Teacher Preparation Standards do overlap with NAEYC (2010) and AMLE (2012) standards. This overlap is unavoidable however, because the K-6 Elementary Standards must respond to the proficiencies required by teachers who are responsible for learners in the K-3 primary grade years, and also in the 4-6 middle level years. It is this very overlap that make the 2018 K-6 Elementary Standards unique, they do not address standards for teaching infants, toddlers, and preschoolers on the one hand, or junior high school adolescents on the other.

In the same vein, each of the critical content areas associated with the K-6 Elementary school years are also represented by SPAs, each with their own set of educator preparation standards. Literary is represented by ILA (IRA 2010), Math by NCTM (2012), Science by NSTA (2012), and Social Studies by NCSS (2004). Unlike the generalist K-6 Elementary standards, these content standards generally apply to K-12, or to proficiencies required for content specialists in the elementary years. Here again there is unavoidable overlap; however, as befits generalist teacher standards, the 2018 K-6 Standards are much broader than the specific content area standards. The K-6 standards differ from these content standards because they represent multiple content areas and are limited to the K-6 years.

The Steering Committee, together with CAEP staff, employed two strategies to address unavoidable overlap or duplication as addressed above. First, the Steering Committee members were selected with knowledge, expertise, or representation from Early Childhood, Middle Level Education, Literacy, Math, Science, and Social Studies. These individuals served the dual functions of representing the needs and perspectives of their respective areas, and also serving as conduits to their respective SPAs. Second, and more directly, each of the SPAs identified above received explicit invitations from CAEP to provide feedback regarding the draft 2018 K-6 Elementary Teacher Preparation Standards. Formal (and informal) feedback was received from some of these related SPAs and was considered by the Steering Committee when revising the standards. Suggestions were made by these professional organizations, but no objections to the 2018 K-6 Elementary Teacher Preparation Standards were raised by any SPA.

C.2.5 - Comparison of 2010 NAEYC Early Childhood Education Standards and CAEP 2018 K-6 Elementary Teacher Preparation Standards

2010 NAEYC Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
STANDARD 1 – Promoting Child Development and Learning. Candidates prepared in early childhood degree programs are grounded in a child development knowledge base. They use their understanding of young children's characteristics and needs, and of multiple interacting influences on children's development and learning, to create environments that are healthy, respectful, supportive, and challenging for each child. **STANDARD 2 – Building Family and Community Relationships.** Candidates prepared in early childhood degree programs understand that successful early childhood education depends upon partnerships with children's families and communities. They know about, understand, and value the importance and complex characteristics of children's families and communities. They use this understanding to create respectful, reciprocal relationships that support and empower families, and to involve all	**STANDARD 1 - Understanding and Addressing Each Child's Developmental and Learning Needs** Candidates use their understanding of child growth and development, individual differences, and diverse families, cultures and communities to plan and implement inclusive learning environments that provide each child with equitable access to high quality learning experiences that engage and create learning opportunities for them to meet high standards. They work collaboratively with families to gain a holistic perspective on children's strengths and needs and how to motivate their learning. **STANDARD 2 - Understanding and Applying Content and Curricular Knowledge for Teaching.** Candidates demonstrate and apply understandings of major concepts, skills, and practices, as they interpret disciplinary curricular standards and related expectations within and

2010 NAEYC Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
families in their children's development and learning. **STANDARD 3 – Observing, Documenting, and Assessing to Support Young Children and Families.** Candidates prepared in early childhood degree programs understand that child observation, documentation, and other forms of assessment are central to the practice of all early childhood professionals. They know about and understand the goals, benefits, and uses of assessment. They know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence the development of every child. **STANDARD 4 – Using Developmentally Effective Approaches.** Candidates prepared in early childhood degree programs understand that teaching and learning with young children is a complex enterprise, and its details vary depending on children's ages, characteristics, and the settings within which teaching and learning occur. They understand and use positive relationships and supportive interactions as the foundation for their work with young children and families. Candidates know, understand, and use a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families and positively influence each child's development and learning. **STANDARD 5 – Using Content Knowledge to Build Meaningful Curriculum.** Candidates prepared in early childhood degree programs use their knowledge of academic disciplines to design, implement, and evaluate experiences that promote positive development and learning for each and every young child. Candidates understand the importance of developmental domains and academic (or content) disciplines in early childhood curriculum. They know the essential concepts, inquiry tools, and structure of content areas, including academic subjects, and can identify resources to deepen their	across literacy, mathematics, science, and social studies. **STANDARD 3 – Assessing, Planning, and Designing Contexts for Learning** Candidates assess students, plan instruction and design classroom contexts for learning. Candidates use formative and summative assessment to monitor students' learning and guide instruction. Candidates plan learning activities to promote a full range of competencies for each student. They differentiate instructional materials and activities to address learners' diversity. Candidates foster engagement in learning by establishing and maintaining social norms for classrooms. They build interpersonal relationships with students that generate motivation, and promote students social and emotional development. **Standard 4 – Supporting Each Child's Learning Using Effective Instruction.** Candidates make informed decisions about instruction guided by knowledge of children and assessment of children's learning that result in the use of a variety of effective instructional practices that employ print, and digital appropriate resources. Instruction is delivered using a cohesive sequence of lessons and employing effective instructional practices. Candidates use explicit instruction and effective feedback as appropriate, and use whole class discussions to support and enhance children's learning. Candidates use flexible grouping arrangements, including small group and individual instruction to support effective instruction and improved learning for every child. **Standard 5- STANDARD 5- Developing as a Professional.** Candidates are committed to the learning and development of every child through effective communication, participation in collaborative learning environments, reflective self-study and professional learning, and involvement in their professional community.

2010 NAEYC Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
understanding. Candidates use their own knowledge and other resources to design, implement, and evaluate meaningful, challenging curriculum that promotes comprehensive developmental and learning outcomes for every young child. **STANDARD 6 – Becoming a Professional.** Candidates prepared in early childhood degree programs identify and conduct themselves as members of the early childhood profession. They know and use ethical guidelines and other professional standards related to early childhood practice. They are continuous, collaborative learners who demonstrate knowledgeable, reflective and critical perspectives on their work, making informed decisions that integrate knowledge from a variety of sources. They are informed advocates for sound educational practices and policies. **STANDARD 7 - Early Childhood Field Experiences.** Field experiences and clinical practice are planned and sequenced so that candidates develop the knowledge, skills and professional dispositions necessary to promote the development and learning of young children across the entire developmental period of early childhood – in at least two of the three early childhood age groups (birth – age 3, 3 through 5, 5 through 8 years) and in the variety of settings that offer early education (early school grades, child care centers and homes, Head Start programs).	

C.2.5 - Comparison of 2012 AMLE Standards and CAEP 2018 K-6 Elementary Teacher Preparation Standards

2012 AMLE Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
Standard 1 - Young Adolescent Development. Middle level teacher candidates understand, use, and reflect on the major concepts, principles, theories, and research related to young adolescent	**STANDARD 1 - Understanding and Addressing Each Child's Developmental and Learning Needs.** Candidates use their understanding of child growth and development, individual differences,

2012 AMLE Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
development and use that knowledge in their practice. They demonstrate their ability to apply this knowledge when making curricular decisions, planning and implementing instruction, participating in middle level programs and practices, and providing healthy and effective learning environments for all young adolescents. **Standard 2 - Middle Level Curriculum.** Middle level teacher candidates understand and use the central concepts, standards, research, and structures of content to plan and implement curriculum that develops all young adolescents' competence in subject matter. They use their knowledge and available resources to design, implement, and evaluate challenging, developmentally responsive curriculum that results in meaningful learning outcomes. Middle level teacher candidates demonstrate their ability to assist all young adolescents in understanding the interdisciplinary nature of knowledge**.** They design and teach curriculum that is responsive to all young adolescents' local, national, and international histories, language/dialects, and individual identities (e.g., race, ethnicity, culture, age, appearance, ability, sexual orientation, socioeconomic status, family composition). **Standard 3 - Middle Level Philosophy and School Organization.** Middle level teacher candidates understand the major concepts, principles, theories, and research underlying the philosophical foundations of developmentally responsive middle level programs and schools, and they work successfully within middle level organizational components. **Standard 4 - Middle Level Instruction and Assessment.** Middle level teacher candidates understand, use, and reflect on the major concepts, principles, theories, and research related to data-informed instruction and assessment. They employ a variety of developmentally appropriate instructional strategies, information literacy skills, and technologies to meet the learning needs of all young adolescents (e.g., race, ethnicity, culture,	and diverse families, cultures and communities to plan and implement inclusive learning environments that provide each child with equitable access to high quality learning experiences that engage and create learning opportunities for them to meet high standards. They work collaboratively with families, colleagues, and school and other professionals to gain a holistic perspective on children's strengths and needs and how to motivate their learning. **STANDARD 2 - Understanding and Applying Content and Curricular Knowledge for Teaching.** Candidates demonstrate and apply understandings of major concepts, skills, and practices, as they interpret disciplinary curricular standards and related expectations within and across literacy, mathematics, science, and social studies. **STANDARD 3 – Assessing, Planning, and Designing Contexts for Learning.** Candidates assess students, plan instruction and design classroom contexts for learning. Candidates use formative and summative assessment to monitor students' learning and guide instruction. Candidates plan learning activities to promote a full range of competencies for each student. They differentiate instructional materials and activities to address learners' diversity. Candidates foster engagement in learning by establishing and maintaining social norms for classrooms. They build interpersonal relationships with students that generate motivation, and promote students social and emotional development. **Standard 4 – Supporting Each Child's Learning Using Effective Instruction.** Candidates make informed decisions about instruction guided by knowledge of children and assessment of children's learning that result in the use of a variety of effective instructional practices that employ print, and digital appropriate resources. Instruction is delivered using a cohesive sequence of lessons and employing effective instructional practices. Candidates use explicit instruction and effective feedback as appropriate, and use whole class discussions to support and enhance children's

2012 AMLE Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
age, appearance, ability, sexual orientation, socioeconomic status, family composition).	learning. Candidates use flexible grouping arrangements, including small group and individual instruction to support effective instruction and improved learning for every child.
Standard 5 - Middle Level Professional Roles. Middle level teacher candidates understand their complex roles as teachers of young adolescents. They engage in practices and behaviors that develop their competence as middle level professionals. They are informed advocates for young adolescents and middle level education, and work successfully with colleagues, families, community agencies, and community members. Middle level teacher candidates demonstrate positive dispositions and engage in ethical professional behaviors.	**STANDARD 5- Developing as a Professional.** Candidates promote learning and development of every child through participation in collaborative learning environments, reflective self-study and professional learning, and involvement in their professional community.

C.2.6 – Analysis of Differences from Current Standards

Comparison of 2007 AECI Elementary Standards and CAEP 2018 K-6 Elementary Teacher Preparation Standards	
2007 Association for Childhood Education International Elementary Education Standards	**CAEP 2018 K-6 Elementary Teacher Preparation Standards**
1. Development, Learning and Motivation	1. Understanding and Addressing Each Child's Developmental and Learning Needs
2. Curriculum	2. Understanding and Applying Content and Curricular Knowledge for Teaching
3. Instruction	3. Assessing, Planning, and Designing Contexts for Learning
4. Assessment	4. Supporting Each Child's Learning Using Effective Instruction
5. Professionalism	5. Developing as a Professional

Overview of Changes in the CAEP 2018 K-6 Elementary Teacher Preparation Standards

The new CAEP 2018 K-6 Elementary Teacher Preparation Standards reflect the following changes from the 2007 ACEI Elementary Teacher Standards:

- Included the same total number of standards (five)
- Changed the term "Key Elements" to "Components" and have increased the number of components from 14 to 23
- Provided more extensive Supporting Explanations that illustrate the candidate performance expectations presented in the standards and components
- Provided extensive professional knowledge base discussions providing a rationale for standards and components
- Ensured close alignment to the 2011 InTASC Standards and the 2016 CAEP *Guidelines*
- Have shifted the focus to what candidates will know and be able to do in order to help *learners* develop and learn
- Included current best practices based on theory, research, standards, and public policy
- Knowledge of child development, content, assessment, planning, learning environments, instruction, diversity, and digital learning are mutually supportive cross-cutting themes across all standards

How the 2018 K-6 Elementary Teacher Preparation Standards Differ from the 2007 ACEI Standards

At the standard level, the CAEP 2018 K-6 Elementary Teacher Standards differ from the 2007 ACEI Elementary Teacher standards in the following ways:

Standard 1 – Understanding and Addressing Each Child's Developmental and Learning Needs

- Three components are now specified focusing on knowledge of child growth and development, use of understanding of individual differences and diverse families and communities, and working respectfully and reciprocally with families, colleagues and school and other professionals.
- Strong emphasis on using knowledge of child growth and development in planning, implementing, and assessing learning experience and environments.
- Emphasis on working effectively with families based on respectful and reciprocal relationships.

Standard 2 – Understanding and Applying Content and Curricular Knowledge for Teaching

- Narrower focus on the content areas of literacy, mathematics, science, social studies, and the core arts.
- Increased focus on digital learning.
- Increased focus on candidate ability to make purposeful connections between or across the curricular areas of literacy, math, science, and social studies.

Standard 3 – Assessing, Planning, and Designing Contexts for Learning

- Rather than focusing on Instruction as did ACEI Standard 3, this standard now focuses on assessing, planning, and designing contexts for learning.
- Six components are defined focusing on assessment and using assessment data, planning for instruction and differentiation of instruction, managing the classroom-learning environment, and supporting student motivations and engagement in learning.
- Specific focus on learners with diverse cognitive, cultural, and emotional diversity.
- Increased focus on social and emotional development as goals for teaching.
- Increased focus on digital learning and resources.
- Increased focus on engagement and motivation of diverse learners.

Standard 4 – Supporting Each Child's Learning Using Effective Instruction

- Increased from five Key Elements to seven Components.
- A narrower but deeper focus on knowledge-based, high leverage instructional practices.
- Stronger focus on meeting the learning needs of each and every child.
- Stronger focus on motivation and engagement.

Standard 5 – Developing as a Professional

- Increased from two Key Elements to three Components.
- Greater focus of professional collaboration to promote development and learning.
- Greater focus in professional development on the learning of each and every child.

Below follows a detailed side-by-side comparison of the 2007 ACEI and the CAEP 2018 K-6 Elementary Teacher Standards.

2007 Association for Childhood Education International Elementary Education Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
DEVELOPMENT, LEARNING AND MOTIVATION **1.0 Development, Learning, and Motivation**--Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students' development, acquisition of knowledge, and motivation.	**STANDARD 1 - Understanding and Addressing Each Child's Developmental and Learning Needs.** Candidates use their understanding of child growth and development, individual differences, and diverse families, cultures and communities to plan and implement inclusive learning environments that provide each child with equitable access to high quality learning experiences that engage and create learning opportunities for them to meet high standards. They work collaboratively with families to gain a holistic perspective on children's strengths and needs and how to motivate their learning. **1.a -** Candidates use their understanding of how children grow, develop and learn to plan and

2007 Association for Childhood Education International Elementary Education Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
	implement developmentally appropriate and challenging learning experiences within environments that take into account the individual strengths and needs of children. **1.b** - Candidates use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's *strengths and address their individual needs.* **1.c** - Candidates work respectfully and reciprocally with families to gain insight into each child in order to maximize his/her development, learning and motivation.
CURRICULUM **2.1 Reading, Writing, and Oral Language**—Candidates demonstrate a high level of competence in use of English language arts and they know, understand, and use concepts from reading, language and child development, to teach reading, writing, speaking, viewing, listening, and thinking skills and to help students successfully apply their developing skills to many different situations, materials, and ideas; **2.2 Science**—Candidates know, understand, and use fundamental concepts of physical, life, and earth/space sciences. Candidates can design and implement age-appropriate inquiry lessons to teach science, to build student understanding for personal and social applications, and to convey the nature of science; **2.3 Mathematics**—Candidates know, understand, and use the major concepts and procedures that define number and operations, algebra, geometry, measurement, and data analysis and probability. In doing so they consistently engage problem solving, reasoning and proof, communication, connections, and representation; **2.4 Social studies**—Candidates know, understand, and use the major concepts and modes of inquiry from the social studies—the integrated study of history, geography, the social sciences, and other	**STANDARD 2 -** Understanding and Applying Content and Curricular Knowledge for Teaching. Candidates demonstrate and apply understandings of major concepts, skills, and practices, as they interpret disciplinary curricular standards and related expectations within and across literacy, mathematics, science, and social studies. **2.a –** Candidates demonstrate and apply understandings of the elements of literacy critical for purposeful oral, print, and digital communication. **2.b -** Candidates demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains. **2.c -** Candidates demonstrate and apply understandings and integration of the three dimensions of science and engineering practices, cross-cutting concepts, and major disciplinary core ideas, within the major content areas of science. **2.d -** Candidates demonstrate understandings, capabilities, and practices associated with the central concepts and tools in Civics, Economics, Geography, and History, within a framework of informed inquiry.

2007 Association for Childhood Education International Elementary Education Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
related areas—to promote elementary students' abilities to make informed decisions as citizens of a culturally diverse democratic society and interdependent world; **2.5 The arts—**Candidates know, understand, and use—as appropriate to their own understanding and skills—the content, functions, and achievements of the performing arts (dance, music, theater) and the visual arts as primary media for communication, inquiry, and engagement among elementary students; **2.6 Health education—**Candidates know, understand, and use the major concepts in the subject matter of health education to create opportunities for student development and practice of skills that contribute to good health; **2.7 Physical education**—Candidates know, understand, and use—as appropriate to their own understanding and skills—human movement and physical activity as central elements to foster active, healthy life styles and enhanced quality of life for elementary students.	
INSTRUCTION **3.1 Integrating and applying knowledge for instruction**—Candidates plan and implement instruction based on knowledge of students, learning theory, connections across the curriculum, curricular goals, and community; **3.2 Adaptation to diverse students—**Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students; **3.3 Development of critical thinking and problem solving**—Candidates understand and use a variety of teaching strategies that encourage elementary students' development of critical thinking and problem solving; **3.4 Active engagement in learning**—Candidates use their knowledge and understanding of	**STANDARD 3 – Assessing, Planning, and Designing Contexts for Learning** Candidates assess students, plan instruction and design classroom contexts for learning. Candidates use formative and summative assessment to monitor students' learning and guide instruction. Candidates plan learning activities to promote a full range of competencies for each student. They differentiate instructional materials and activities to address learners' diversity. Candidates foster engagement in learning by establishing and maintaining social norms for classrooms. They build interpersonal relationships with students that generate motivation, and promote students social and emotional development. **3.a -** Candidates administer formative and summative assessments regularly to determine students' competencies and learning needs.

2007 Association for Childhood Education International Elementary Education Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self-motivation, and positive social interaction and to create supportive learning environments; **3.5 Communication to foster collaboration—** Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom.	**3.b** - Candidates use assessment results to improve instruction and monitor learning. **3.c** - Candidates plan instruction including goals, materials, learning activities and assessments. **3.d** - Candidates differentiate instructional plans to meet the needs of diverse students in the classroom. **3.e** - Candidates manage the classroom by establishing and maintaining social norms and behavioral expectations. **3.f** - Candidates explicitly support motivation and engagement in learning through diverse evidence-based practices.
ASSESSMENT **4.0 Assessment for instruction**—Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.	**Standard 4 – Supporting Each Child's Learning Using Effective Instruction.** Candidates make informed decisions about instruction guided by knowledge of children and assessment of children's learning that result in the use of a variety of effective instructional practices that employ print, and digital appropriate resources. Instruction is delivered using a cohesive sequence of lessons and employing effective instructional practices. Candidates use explicit instruction and effective feedback as appropriate, and use whole class discussions to support and enhance children's learning. Candidates use flexible grouping arrangements, including small group and individual instruction to support effective instruction and improved learning for every child. **4.a** - Candidates use a variety of instructional practices that support the learning of every child. **4.b** - Candidates teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child. **4. c** - Candidates explicitly teach content, strategies, and skills to make clear what a learner needs to do or think about while learning academic content. They make connections to prior knowledge and skills and focus instruction on the steps that lead to the new knowledge or skill. They also focus on strategic use of examples to build understanding and address misunderstandings, careful use of language, highlighting core ideas,

2007 Association for Childhood Education International Elementary Education Standards	CAEP 2018 K-6 Elementary Teacher Preparation Standards
	and making the candidate's thinking visible while modeling and demonstrating. **4.d** - Candidates provide constructive feedback to guide children's learning, increase motivation, and improve student engagement. **4.e** - Candidates lead whole class discussions to investigate specific content, strategies, or skills, and ensure the equitable participation of every child in the classroom. **4.f** - Candidates effectively organize and manage small group instruction to provide more focused, intensive instruction and differentiate teaching to meet the learning needs of each child. **4.g** - Candidates effectively organize and manage individual instruction to provide targeted, focused, intensive instruction that improves or enhances each child's learning.
PROFESSIONALISM **5.1 Professional growth, reflection, and evaluation**—Candidates are aware of and reflect on their practice in light of research on teaching, professional ethics, and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, families and other professionals in the learning community and actively seek out opportunities to grow professionally. **5.2 Collaboration with families, colleagues, and community agencies**—Candidates know the importance of establishing and maintaining a positive collaborative relationship with families, school colleagues, and agencies in the larger community to promote the intellectual, social, emotional, physical growth and well-being of children.	**STANDARD 5- Developing as a Professional.** Candidates promote learning and development of every child through participation in collaborative learning environments, reflective self-study and professional learning, and involvement in their professional community. **5.a** - Candidates work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth. **5.b -** Candidates design and implement professional learning activities based on ongoing analysis of student learning; self-reflection; professional standards, research and contemporary practices; and standards of ethical professional practice. **5.c -** Candidates participate in peer and professional learning communities to enhance student learning

C.2.7 –Assessment Evidence Guidelines and Rubrics

C.2.7 – Assessing the CAEP 2018 K-6 Elementary Teacher Preparation Standards

Each K-6 Elementary Teacher Preparation **S**tandard include these five elements: the standard statement, standard component statement, supporting explanation for each standard component, scoring rubric for each component, and assessment evidence guidelines for each component. The assessment evidence guidelines are an important part of the complete K-6 Elementary Standards document that is disseminated to programs and provides guidance to K-6 Elementary teacher preparation programs on how strong evidence that candidates meet standards can be generated by using a minimum of six and a maximum of eight assessments; provide guidance to programs and program reviewers on evaluating and interpreting assessment evidence; and provide examples of candidate actions that could demonstrate that the standard is met.

The K-6 Elementary Teacher Preparation Standards can be assessed using up to eight assessments to generate sufficient evidence that standards are met. As can be seen in the Standards/Assessment Crosswalk, the assessment categories include: (1) a licensure assessment, or other content-based assessment; (2) content-based assessment; (3) assessment of candidate ability to plan instruction; (4) assessment of student teaching; (5) assessment of candidate effect on student learning; and (6) assessment of candidate professional learning. K-6 Elementary teacher preparation programs are strongly encouraged submit a seventh and/or eighth assessment that they believe will further strengthen their demonstration that all standards are met. The specific focus of this assessment is determined by the program's assessment system and the extent to which stronger evidence that a standard is met is needed.

CAEP 2018 K-6 Elementary Teacher Preparation Standards and Sources of Evidence for Candidate Performance

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 1.a - Candidates use their understanding of how children grow, develop and learn to plan and implement developmentally appropriate and challenging learning experiences within environments that consider the individual strengths and needs of children.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples, case studies of Elementary classrooms, and classroom action research studies.

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 1.b - Candidates use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's strengths and address their individual needs.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples, case studies of Elementary classrooms, and classroom action research studies. ▪ **Other assessments** such as child case studies, community culture case studies, classroom-based action research studies, collaborative planning and implementation with specialist teachers or other school professionals, and classroom-family communication plans.
Standard 1.c - Candidates work respectfully and reciprocally with families to gain insight into each child to maximize his/her development, learning and motivation.	▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ **Other assessments** such as child case studies, community culture case studies, classroom-based action research studies, collaborative planning and implementation with specialist teachers or other school professionals, and classroom-family communication plans.

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 2.a – Candidates demonstrate and apply understandings of the elements of literacy critical for purposeful oral, print, and digital communication.	▪Assessments of **content knowledge** such as state licensure tests or professional examinations of content knowledge. ▪ Assessments of **content knowledge** such as course grades in content or pedagogical courses related to literacy, noting alignment of designated course projects to major content areas of literacy (phonological awareness and phonics, word recognition and analysis, conventions of standard academic English, comprehension, fluency, ability to read text closely and critically, discourse conventions, effective writing) and connecting to other curricular areas. ▪ Assessments of **content knowledge** such as a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to literacy. The capstone project is assessed by the EPP using a rubric which addresses the extent to which major content areas of literacy are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).
Standard 2.b - Candidates demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains.	▪Assessments of **content knowledge** such as state licensure tests or professional examinations of content knowledge. ▪Assessments of **content knowledge** such as course grades in content or pedagogical courses related to mathematics, noting alignment of designated course projects to major content areas of mathematics (Number and Operations, Algebraic Thinking, Geometry, Measurement, Statistics and Probability), standards of mathematical practice, and connecting to other curricular areas. ▪ Assessments of **content knowledge** such as a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to mathematics. The capstone project is assessed by the EPP using a rubric which addresses the extent to which major content areas of mathematics are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 2.c - Candidates demonstrate and apply understandings and integration of the three dimensions of science and engineering practices, cross-cutting concepts, and major disciplinary core ideas, within the major content areas of science.	▪Assessments of **content knowledge** such as state licensure tests or professional examinations of content knowledge. ▪Assessments of **content knowledge** such as course grades in content or pedagogical courses related to science, noting alignment of designated course projects to major content areas of science (Physical, Life, Earth and Space Sciences and Engineering Design), science and engineering practices, and connecting to other curricular areas. ▪ Assessments of **content knowledge** such as a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to science. The capstone project is assessed by the EPP using a rubric which addresses the extent to which major content areas of science are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).
Standard 2.d - Candidates demonstrate understandings, capabilities, and practices associated with the central concepts and tools in Civics, Economics, Geography, and History, within a framework of informed inquiry.	▪Assessments of **content knowledge** such as state licensure tests or professional examinations of content knowledge for initial certification in elementary education, noting alignment of concepts in Civics, Economics, Geography, and History to the national and/or state test. ▪Assessments of **content knowledge** such as course grades in content or pedagogical courses related to social studies, noting alignment of designated course projects to major social studies concepts (Civics, Economics, Geography, and History), within a framework of informed inquiry and connecting to other curricular areas. ▪ Assessments of **content knowledge** such as a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to social studies. The capstone project is assessed by the EPP using a rubric which addresses the extent to which major content areas of social studies are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 3.a - Candidates administer formative and summative assessments regularly to determine students' competencies and learning needs.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 3.b - Candidates use assessment results to improve instruction and monitor learning.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 3.c - Candidates plan instruction including goals, materials, learning activities and assessments.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 3.d - Candidates differentiate instructional plans to meet the needs of diverse students in the classroom.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 3.e - Candidates manage the classroom by establishing and maintaining social norms and behavioral expectations.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 3.f - Candidates explicitly support motivation and engagement in learning through diverse evidence-based practices.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 4.a - Candidates use a variety of instructional practices that support the learning of every child.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 4.b - Candidates teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 4. c - Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 4.d - Candidates provide constructive feedback to guide children's learning, increase motivation, and improve student engagement.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 4.e - Candidates lead whole class discussions to investigate specific content, strategies, or skills, and ensure the equitable participation of every child in the classroom.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 4.f - Candidates effectively organize and manage small group instruction to provide more focused, intensive instruction and differentiate teaching to meet the learning needs of each child.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.

K-6 Elementary Standard Components	Sources of Assessment Evidence for Candidate Performance
Standard 4.g - Candidates effectively organize and manage individual instruction to provide targeted, focused, intensive instruction that improves or enhances each child's learning.	▪ Assessments of **planning** such as lesson plans, unit plans, need assessments, and/or other planning tasks. ▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ An assessment **of impact on student learning** such as student work samples, performance assessments such as the edTPA, Teacher Work Samples (tws), case studies of elementary classrooms, and classroom action research studies.
Standard 5.a - Candidates work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth.	▪ Assessments and tools used by programs to assess **student teaching or internship**. ▪ **Other assessments** such as evaluations of field experiences, case studies, portfolio projects, and classroom-based action research studies.
Standard 5.b - Candidates design and implement professional learning activities based on ongoing analysis of student learning; self-reflection; professional standards, research and contemporary practices; and standards of ethical professional practice.	▪ **Other assessments** such as evaluations of field experiences, case studies, portfolio projects, and classroom-based action research studies.
Standard 5.c - Candidates participate in peer and professional learning communities to enhance student learning	▪ **Other assessments** such as evaluations of field experiences, case studies, portfolio projects, and classroom-based action research studies.

Cross-walk. The matrix below demonstrates a cross-walk where each **X** represents a potential source of direct assessment evidence of candidate ability to meet that K-6 Elementary Standard component. Multiple sources of evidence from different settings and grade levels provide stronger evidence that candidates meet the standard component.

	Assessment of Content	Assessment of Content	Assessment of Planning	Assessment of Student Teaching	Assessment of Impact on Learners	Assessment related to Families	Assessment of Professional Learning	Unspecified Assessment as needed
STANDARD 1 - Understanding and Addressing Each Child's Developmental and Learning Needs								
1.a			X	X	X			
1.b			X	X	X			
1.c				X		X		
STANDARD 2 - Understanding and Applying Content and Curricular Knowledge for Teaching								
2.a	X	X						
2.b	X	X						
2.c	X	X						
2.d	X	X						
STANDARD 3 – Assessing, Planning, and Designing Contexts for Learning								
3.a			X	X	X			
3.b			X	X	X			
3.c			X	X	X			
3.d			X	X	X			
3.e			X	X	X			
3.f			X	X	X			
STANDARD 4 – Supporting Each Child's Learning Using Effective Instruction								
4.a			X	X	X			
4.b			X	X	X			
4.c			X	X	X			
4.d			X	X	X			
4.e			X	X	X			
4.f			X	X	X			
4.g			X	X	X			
STANDARD 5- Developing as a Professional								
5.a				X			X	
5.b							X	
5.c							X	

C.2.7 – Guidance for Elementary Teacher Preparation Programs and Reviewers

The following guidelines have been established to assure greater consistency among reviews of Elementary teacher preparation programs. K-6 Elementary teacher preparation program reviewers decide on whether a program provides sufficient evidence to meet the Elementary standards. To ensure consistent practices among Elementary teacher preparation program reviewers in the analysis of assessment evidence and in arriving at decisions based on that evidence whether each standard is met, K-6 Elementary teacher preparation reviewers and will follow these guidelines.

1. Preponderance of Evidence – Elementary teacher preparation program reviewer and decisions on whether specific standards are met will be based on the preponderance of evidence at the standard level. "Preponderance of evidence" means an overall confirmation that candidates meet standards in the strength, weight, or quality of evidence. This will be based on the professional judgments of the Elementary program reviewer teams. Program reviewers weigh the evidence presented in Elementary program reports, and when there is a greater weight of evidence in favor, they should conclude that a standard is met or that a program is recognized. Program reviewers make judgments that "overall" there is/ is not sufficient evidence that the standard is met.

2. Meeting requirements for standards and components– Elementary teacher preparation programs are required to provide evidence for all the components of a standard. However, Elementary program reviewers cannot require a program to meet all components to meet the overall standard. Program reviewers make judgments at the standard level that "overall" there is/ is not sufficient evidence that the standard is met.

The components of a standard are used by program reviewers to help determine how standards are met. This means that a standard could be met, even though evidence related to one or more components presented in the eight possible assessments is weak. Reviewers make judgments at the standard level that "overall" there is/is not sufficient evidence that the standard is met.

3. Evaluating alignment among standards, assessments, and rubrics – Candidate assessments and scoring rubrics must be aligned with the CAEP 2018 K-6 Elementary Teacher Preparation Standards. "Alignment" may be attained if assessments and rubrics are comprised of content similar to the Elementary Standards and demonstrate the same complexity as the standards; are congruent in the range of knowledge and skills that candidates are expected to exhibit; and call for an appropriate level of difficulty consistent with the standards.

Since the validity of evidence depends on the alignment of assessments and rubrics with the standards, Elementary program reviewers will apply the following criteria when evaluating and commenting on alignment of standards to candidate assessments and scoring rubrics submitted by teacher preparation programs undergoing review. When reviewers provide feedback to programs about alignment of standards to assessments and rubrics, feedback should be referenced to the characteristics described below. Alignment of the K-6 Elementary Teacher Preparation Standards to program assessments and rubrics must demonstrate, at a minimum, the following characteristics.

- The *content* of the assessment tasks and the rubrics are the same as the content of the K-6 Elementary Teacher Preparation Standards Component and the Supportive Explanation
- The *cognitive demands* (knowing and understanding) *and skill requirements* of the assessment and related rubrics are the same as described in the K-6 Elementary Teacher Preparation

Standards and Components. The assessment tasks and rubric criteria are adapted to the elements of the Elementary Standards, such as knowledge and comprehension, and ability to apply or practice
- The *level of effort required, or the degree of difficulty* of the assessment and rubric are consistent with what the standards required. Does the assessment represent the difficulty of similar tasks typically required of a beginning K-6 Elementary teacher?

4. Evaluating the quality of candidate assessments – Elementary Education Program Reports may include six to eight assessments that, taken as a whole, demonstrate candidate mastery of the Elementary Standards. These assessments must be required of all candidates. Assessments should be aligned with the K-6 Elementary Teacher Preparation Standards and components. This means that the concepts in the Elementary teacher preparation standards should be apparent in the assessments to the same depth, breadth, and specificity as in the Elementary Standards.

Assessments of candidate performance on the Elementary Education standards must demonstrate the characteristics described as the minimal level of sufficient evidence as identified in the CAEP Evaluation Framework.

Since the validity of assessment evidence depends on the quality of assessment tasks and scoring rubrics, Elementary program reviewers will apply the following criteria when evaluating candidate performance assessments submitted by teacher preparation programs for review. When reviewers provide feedback to programs about their assessments, feedback should be referenced to the characteristics described below. Elementary Education teacher preparation program assessments must demonstrate, at a minimum, the following characteristics.

Administration and purpose of assessments
- The point or points when the assessment is administered during the preparation program are explicit
- The purpose of the assessment and its use in candidate monitoring or decisions on progression are specified and appropriate
- Evaluation categories or assessment tasks are tagged to the K-6 Elementary Teacher Preparation Standards

Informing Candidates
- The candidates who are being assessed are given a description of the assessment's purpose
- Instructions provided to candidates about what they are expected to do are informative and unambiguous
- The basis for judgment (criterion for success, or what is "good enough") is made explicit for candidates

Content of Assessment

- Evaluation categories or tasks assess explicitly identified aspects of the Elementary standards
- Evaluation categories or tasks reflect the degree of difficulty or level of effort described in the standards
- Evaluation categories or tasks unambiguously describe the proficiencies to be evaluated

- When the standards being informed address higher level functioning, the evaluation categories or tasks require higher levels of intellectual behavior (e.g., create, evaluate, analyze, & apply). For example, when a standard specifies that candidates' students "demonstrate" problem solving, then the category or task is specific to students' application of knowledge to solve problems
- Most evaluation categories or tasks (at least those comprising majority of the total score) require observers to judge consequential attributes of candidate proficiencies in the standards

5. Evaluating the quality of assessment rubrics – Elementary Education Program Reports must include rubrics that describe program expectations for appropriate candidate performance by defining different levels of candidate proficiencies in the Elementary Standards that determine whether standards are met or not met. Rubrics for meeting the standards must demonstrate the characteristics described as the minimal level of sufficient evidence as identified in the CAEP Evaluation Framework.

Since the validity of assessment evidence depends on the quality of assessment tasks and scoring rubrics, Elementary program reviewers will apply the following criteria when evaluating assessment rubrics submitted by teacher preparation programs seeking review. When reviewers provide feedback to programs about their rubrics, feedback should be referenced to the characteristics described below. Program assessment rubrics must demonstrate, at a minimum, the following characteristics.

- The basis for judging candidate work is well defined
- Each proficiency level is qualitatively defined by specific criteria aligned with the category (or indicator) or with the assigned task
- Proficiency level descriptions represent a developmental sequence from level to level (to provide raters with explicit guidelines for evaluating candidate performance and candidates with explicit feedback on their performance)
- Feedback provided to candidates from the rubric is actionable
- Proficiency level attributes are defined in actionable, performance-based, or observable behavior terms. NOTE: If a less actionable term is used such as "engaged", criteria are provided to define the use of the term in the context of the category or indicator

Definition of Rubric Performance Levels

The basis for evaluating Elementary Teacher Preparation candidate competence is defined as the following four performance levels and is to be applied with the Elementary Standards assessment rubrics.

Level 1 - The Beginning Candidate. Level 1 implies a ***Beginning*** level of candidate performance characteristics, a level in which there is little or no evidence that the candidate meets the component's performance expectation.

Level 2 - The Developing Candidate. **Level 2** implies a level of ***Developing*** performance, a level in which the candidate provides evidence for demonstrating some but not all of the performance characteristics necessary to meet the standard at an acceptable level, and so has not yet provided sufficient evidence of ability for independent practice for all parts of the component performance expectation.

Level 3 - The Competent Candidate. **Level 3** implies a level of ***Competent*** performance in which the candidate demonstrates proficiency—those performance characteristics that meet the component expectations at an acceptable level for a candidate who is just completing an Elementary teacher preparation program, and is ready to begin independent teaching in any K-6 Elementary classroom as a novice licensed K-6 Elementary teacher.

Level 4 - The Accomplished Candidate. **Level 4** implies an ***Accomplished*** level of performance in which the candidate demonstrates performance characteristics that represent exemplary practice for a candidate who is just completing an Elementary teacher preparation program and is ready to begin independent teaching in any K-6 Elementary classroom as a novice licensed K-6 Elementary teacher. Expectations for performance at this level are demanding and candidate performance at this level requires evidence of highly skilled performance for a candidate who is just completing an Elementary teacher preparation program.

C.2.7 - EXAMPLES OF EVIDENCE OF CANDIDATE COMPETENCE

The CAEP 2018 K-6 Elementary Teacher Preparation Standards include the following examples of candidate actions that each provide sufficient evidence that a standard component is met. Each example is aligned closely with the content and complexity of the component expectations and is designed to assist programs in crafting assessments that would include these or similar actions. Unlike specification of assessment tasks (e.g., a lesson plan), each example describes actions a candidate might take to demonstrate that the component is met in its entirety.

Examples of Evidence of Candidate Competencies for Standard 1 Components

1.a *- Candidates use their understanding of how children grow, develop and learn to plan and implement developmentally appropriate and challenging learning experiences within environments that take into account the individual strengths and needs of children.*

- Candidate actively seeks out and elicits student feedback regarding their interests, learning preferences, and readiness for learning through formal and informal means and uses this data to design developmentally appropriate and challenging learning experiences.
- Candidate conducts a single-subject comprehensive child study that outlines the complexity of development and learning in an individual child and how to address their strengths and needs.
- Candidate uses knowledge of the varying developmental needs of students to provide options and vary learning experiences to involve whole group, small group and individual.

1.b *- Candidates use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's strengths and address their individual needs.*

- Candidate plans and implements a lesson or unit that provides students with a choice of differentiated content, process or products based on individual interests and diverse families, cultures and communities.

- Candidate collaborates with support specialists or classroom teacher to design and implement an intervention or accommodation that includes a family or cultural component, for a student for whom English is a second language.
- Candidate plans and implements a lesson or unit that includes multiple perspectives in the presentation and discussion of content that reflects the differing family, community, personal and cultural experiences and norms of learners

1.c - *Candidates work respectfully and reciprocally with families to gain insight into each child in order to maximize his/her development, learning and motivation.*

- During a role play of a PTA conference with a parent, candidate asks targeted probing questions about a student's interests, abilities, and drive in order to understand what might motivate a student who is disengaged in class.
- Candidate involves a family in completing a case study of a child in order to plan and agree on shared developmental and learning goals for the coming year.
- Candidate drafts a comprehensive communication plan that includes various strategies for reaching out and maintaining contact with a variety of family structures and contexts.

Examples of Candidate Competencies for Standard 2 Components

2.a – *Candidates demonstrate and apply understandings of the elements of literacy critical for purposeful oral, print, and digital communication.*

- Documentation of results and related descriptive comments regarding successful completion of items related to elements of literacy critical for purposeful oral, print, or digital communication on national and/or state accepted tests for initial certification in elementary education, noting alignment of elements of literacy to the national and/or state test (e.g. Praxis; state requirement assessment).
- Course grades in content or pedagogical courses related to literacy, noting alignment of designated course projects to major content areas of literacy (phonological awareness and phonics, word recognition and analysis, conventions of standard academic English, comprehension, fluency, ability to read text closely and critically, discourse conventions, effective writing) and connecting to other curricular areas and health and physical education, and the core arts.
- Candidate completes a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to literacy. The capstone project is assessed by the EPP using a rubric which addresses the extent to which major content areas of literacy are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).

2.b - *Candidates demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains.*

- Documentation of results and related descriptive comments regarding successful completion of items related to understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices on national and/or state accepted tests for initial certification in elementary education, noting alignment of major mathematics concepts,

algorithms, procedures, applications and mathematical practices to the national and/or state test (e.g. Praxis; state requirement assessment).
- Course grades in content or pedagogical courses related to mathematics, noting alignment of designated course projects to major content areas of mathematics (Number and Operations, Algebraic Thinking, Geometry, Measurement, Statistics and Probability), standards of mathematical practice, and connecting to other curricular areas and health and physical education, and the core arts.
- Candidate completes a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to mathematics. The capstone project is assessed by the EPP using a rubric which addresses the extent to which major content areas of mathematics are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).

2.c - *Candidates demonstrate and apply understandings and integration of the three dimensions of science and engineering practices, cross-cutting concepts, and major disciplinary core ideas, within the major content areas of science.*

- Documentation of results and related descriptive comments regarding successful completion of items related to understandings of major disciplinary core ideas within the major content areas of science on national and/or state accepted tests for initial certification in elementary education, noting alignment of major content areas of science to the national and/or state test (e.g. Praxis; state requirement assessment). _
- Course grades in content or pedagogical courses related to science, noting alignment of designated course projects to major content areas of science (Physical, Life, Earth and Space Sciences and Engineering Design), science and engineering practices, and connecting to other curricular areas and health and physical education, and the core arts.
- Candidate completes a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to science. The capstone project is assessed by the EPP using a rubric which addresses the extent to which major content areas of science are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).

2.d - *Candidates demonstrate understandings, capabilities, and practices associated with the central concepts and tools in Civics, Economics, Geography, and History, within a framework of informed inquiry.*

- Documentation of results and related descriptive comments regarding successful completion of items related to central concepts and tools in Civics, Economics, Geography, and History on national and/or state accepted tests for initial certification in elementary education, noting alignment of concepts in Civics, Economics, Geography, and History to the national and/or state test (e.g. Praxis; state requirement assessment).
- Course grades in content or pedagogical courses related to social studies, noting alignment of designated course projects to major social studies concepts (Civics, Economics, Geography, and History), within a framework of informed inquiry and connecting to other curricular areas and health and physical education, and the core arts.
- Candidate completes a required capstone project (e.g. multiple days of planning or an assessment) in content or pedagogy courses related to social studies. The capstone project is

assessed by the EPP using a rubric which addresses the extent to which major content areas of social studies are appropriately addressed and related to important curricular topics or standards related to the intended instructional level of the project (e.g. a single grade level or multiple grade levels).

Examples of Candidate Competencies for Standard 3 Components

3.a *- Candidates administer formative and summative assessments regularly to determine students' competencies and learning needs.*

- Candidate explains the rationale for using summative assessments, administers them fully, and adjusts tasks to address students' special needs and diversity.
- Candidate uses materials and tasks aligned to the curriculum to design and administer formative assessments to monitor progress toward unit goals.
- Candidate collaborates with the cooperating teacher to design assessment plans, activities and interpretations that enable teachers and school leaders to monitor student progress and the attainment of learning, motivation and personal goals for all students.

3.b *- Candidates use assessment results to improve instruction and monitor learning.*

- Candidate scores and interprets student performance on assessments for various subgroups to determine the effectiveness of instructional activities/practices to be able to adjust future learning goals to meet the needs of learners.
- Candidate compares assessment performance of students in all subgroups to unit goals, materials and tasks and modifies instruction plans to improve achievement for all students.
- Candidate adjusts instructional materials, tasks, and learning activities in future units based on assessment data to ensure that they are realistic, challenging and meet the needs of diverse students in relation to academic, behavioral, and motivational needs.

3.c *- Candidates plan instruction including goals, materials, learning activities and assessments.*

- Candidate identifies appropriate unit goals, lesson objectives, and materials to meet school and classroom goals in view of the strengths and needs of students in relation to curriculum expectations.
- Candidate identifies and organizes an abundance of instructional texts, tasks, and activities to supplement core materials to meet the learning needs of students and support motivation and engagement in the learning process.
- Candidate designs and organizes the objectives, materials and activities for individual lessons, curricular units and long-term goals to assure their alignment and coherence.

3.d *- Candidates differentiate instructional plans to meet the needs of diverse students in the classroom.*

- Candidate examines formative and summative assessment data of subgroups of students including gender, ELLs, special needs, socioeconomic, cultural backgrounds, and/or physical limitations to effectively set unit goals and lesson objectives, and to identify and create appropriate learning activities for each group based on developmental needs.

- Candidate identifies motivational supports and an abundance of instructional materials for each subgroup of students to maximize engagement and achievement based on specific learning needs of the groups.
- Candidate shifts teaching during a lesson or unit to adapt the instruction more fully to the learning, motivational and knowledge needs of struggling students.

3.e *- Candidates manage the classroom by establishing and maintaining social norms and behavioral expectations.*

- Candidate involves students in setting and maintaining classroom norms for behavior and interpersonal interaction that assure physical safety, mutual respect and social cooperation.
- Candidate scaffolds learning activities to assure cognitive engagement by all students by supporting students' competence, autonomy and constructive social interaction.
- Candidate communicates as needed with individual students or small groups to build trust and to assure their understanding and affirmation of established classroom norms and expectations.

3.f *- Candidates explicitly support motivation and engagement in learning through diverse evidence-based practices.*

- Candidate uses a variety of lesson structures including individual support, small group activity, constructivist inquiry, and direct instruction that are based around a central idea, theme, or concept and are designed to meet the needs of learners.
- Candidate provides optimal balance of social interaction, direct instruction, and independent academic activity while scaffolding instruction to ensure student success.
- Candidate offers students opportunity to self-direct their learning activities, collaborate with classmates, link learning activities to real-world contexts, express their opinions, and personally identify with the subject matter, learning strategies and products of classroom work.

Standard 4 – Supporting Each Child's Learning Using Effective Instruction.

Candidates make informed decisions about instruction guided by knowledge of children and assessment of children's learning that result in the use of a variety of effective instructional practices that employ print, and digital appropriate resources. Instruction is delivered using a cohesive sequence of lessons and employing effective instructional practices. Candidates use explicit instruction and effective feedback as appropriate, and use whole class discussions to support and enhance children's learning. Candidates use flexible grouping arrangements, including small group and individual instruction to support effective instruction and improved learning for every child.

Examples of Candidate Competencies for Standard 4 Components

4.a *- Candidates use a variety of instructional practices that support the learning of every child.*

- Candidate uses formative and summative assessment data and knowledge of each child when planning instruction.
- Candidate matches instructional methods and materials used in lessons with the learning goals and needs of each student.
- Candidate uses practices that provide children with opportunities to make their own choices and supports the development of the requisite skills that lead to problem solving, and critical and creative thinking.

4.b - *Candidates teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child.*

- Candidate teaches lessons that strategically build on previous lessons and serve to deepen and extend each child's learning of content and skills over time.
- Candidate designs lessons around challenging learning goals based on key concepts, themes, or topics that are key to the discipline and reflect the diverse learning needs of each child.
- Candidate provides multiple opportunities for students to practice and master foundational concepts and skills before moving on to more advanced content in later lessons.
- Candidate assesses what children know and can do as a result of sequenced instruction and adapts future instruction in response to learner performance.

4.c - *Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content.*

- Candidate identifies appropriate goals for explicit instruction and creates appropriate lesson plan for using explicit instruction based on these goals.
- Candidate uses instruction that makes connections to prior knowledge and skills and focuses instruction on steps that lead to the knowledge or skill that is the focus on s instruction.
- Candidate monitors the impact of instruction on student learning using appropriate assessment measures (e.g., work samples, curriculum-based measures), and appropriately adapts instruction based on these data.

4.d - *Candidates provide constructive feedback to guide children's learning, increase motivation, and improve student engagement.*

- Candidate uses goal-directed feedback to inform the student regarding whether she is on track, and provides direct support (e.g., an action that may be taken in response to feedback) to improve performance.
- The candidate engages the student in self-evaluation that develops error identification skills.
- The candidate uses strategies that support student self-regulation and independence in learning content.

4.e – *Candidates lead whole class discussions to investigate specific content, strategies, or skills, and ensure the equitable participation of every child in the classroom.*

- Candidate identifies specific content, strategy, or skill that is the focus of whole class discussion and develops a lesson plan to appropriately address this content focus.
- Candidate begins the discussion with appropriate questions or other content, and then has all students contribute and supports students in building upon other student comments.
- Candidate guides discussion so that all students participate through sharing to whole group or partner sharing that moves to sharing in whole group.
- Candidate asks appropriate questions and reframes the discussion but does not monopolize the discussion.

4.f – *Candidates effectively organize and manage small group instruction to provide more focused, intensive instruction and differentiate teaching to meet the learning needs of each child.*

- Candidate uses assessment data to identify students, demonstrate need, and specify learning goals for small group instruction.
- Candidate develops and delivers an appropriate lesson plan to address the goals of instruction for small group instruction.
- Candidate monitors student progress with appropriate assessment data, and uses this information to provide feedback to the students and adjust small group instruction.

4.g - *Candidates effectively organize and manage individual instruction to provide targeted, focused, intensive instruction that improves or enhances each child's learning.*

- Candidate uses assessment data to identify appropriate goals for individual instruction.
- Candidate collaborates with support specialists to design individual instruction.
- Candidate uses an appropriate strategy (e.g., direct instruction, problem-based instruction, inquiry, structured tutoring) to support the student in meeting the goals of instruction.
- Candidate monitors student progress and uses these data to make instructional decisions including appropriate adaptations in individual instruction.

Examples of Candidate Competencies for Standard 5 Components

5.a *- Candidates work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth.*

- Collaborates with classroom host teacher, or other grade level teachers, in planning, implementing, and evaluating class activities.
- Candidate collaborates with specialist teachers or related school professionals to plan and implement classroom accommodations or modifications to meet students' learning and developmental needs.
- Candidate collaborates with external resources including professionals and community agencies to meet the learning needs of their students.

5.b *- Candidates design and implement professional learning activities based on ongoing analysis of student learning; self-reflection; professional standards, research and contemporary practices; and standards of ethical professional practice.*

- Candidate designs and implements professional development activities that are aligned with current research and evidence-based practices.
- Candidate uses self-reflection based upon assessments of student formative and summative learning to inform their professional development activities.
- Candidate provides documentation of participating in professional ethics training, such as safe school workshops, child abuse workshops, cultural sensitivity workshops, FERPA training, or intellectual property workshops as part of their professional development.

5.c *- Candidates participate in peer and professional learning communities to enhance student learning*

- Candidate joins local, state, or national professional organizations and documents how this membership contributes to student learning.
- Candidate attends in person or through the use of technology, professional conferences, workshops, or other activities focused on enhancing student learning and development, and describes how they utilize the information to contribute to student learning and development.
- Candidate participates by contributing to professional communities, including through the use of technology, and documents how it is used to enhanced student learning.

C.2.7 – Assessment Rubrics

Definition of Rubric Performance Levels

The basis for evaluating Elementary Teacher Preparation candidate competence is defined as the following four performance levels and is to be applied with the K-6 Elementary Teacher Preparation Standards assessment rubrics.

Level 1 - The Beginning Candidate. Level 1 implies a ***Beginning*** level of candidate performance characteristics, a level in which there is little or no evidence that the candidate meets the component's performance expectation.

Level 2 - The Developing Candidate. **Level 2** implies a level of ***Developing*** performance, a level in which the candidate provides evidence for demonstrating some of the performance characteristics necessary to meet the standard at an acceptable level, and so has not yet provided sufficient evidence of ability for independent practice for all parts of the component performance expectation.

Level 3 - The Competent Candidate. **Level 3** implies a level of ***Competent*** performance in which the candidate demonstrates proficiency—those performance characteristics that meet the component expectations at an acceptable level for a candidate who is just completing an Elementary teacher preparation program and is ready to begin teaching in any K-6 Elementary classroom as a novice licensed K-6 Elementary teacher.

Level 4 - The Accomplished Candidate. **Level 4** implies an ***Accomplished*** level of performance in which the candidate demonstrates performance characteristics that represent exemplary practice for a candidate who is just completing an Elementary teacher preparation program and is ready to begin teaching in any K-6 Elementary classroom as a novice licensed K-6 Elementary teacher. Expectations for performance at this level are demanding and candidate performance at this level requires evidence of highly skilled performance for a candidate who is just completing an Elementary teacher preparation program.

Rubric for Standard 1.a – *How do candidates use their understanding of how children grow, develop and learn to assess, plan, and implement developmentally appropriate and challenging learning experiences and environments that take into account individual children's strengths and needs?*

The performance characteristics describe expectations for candidates to use knowledge of child development and learning as the basis for planning learning experiences and environments to meet individual children's needs, and to assess children's development.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate demonstrates little or no understanding of how children grow, develop, and learn. Candidate does not gather information about learners' development.	Candidate understands how children grow and develop across the developmental domains, how development in each domain impacts growth in the other domains, and how all together they impact learning, but do not use this knowledge to plan developmentally appropriate and challenging learning experiences or environments. Candidate gathers information about learners' development but does not do this systematically or does not use this information to support development.	Candidate uses their understanding of how children grow and develop across the developmental domains, how development in each domain impacts growth in the other domains, and how all together they impact learning to plan and implement developmentally appropriate and challenging learning experiences and environments that consider individual children's strengths and needs. Candidate observes and records learners' development, individually and in group contexts, to determine strengths and needs in each area of development.	Candidate uses their understanding of how children grow and develop across the developmental domains, how development in each domain impacts growth in the other domains, and how all together they impact learning to plan and implement learning experiences and environments that consider individual children's strengths and needs, and are able to articulate the theoretical foundations for their plans and actions. Candidate assesses learners' development, using a variety of assessments, individually and in group contexts, to determine strengths and needs in each area of development.

Rubric for Standard 1.b – *How does the candidate use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's strengths and address their individual needs?*

The performance characteristics describe expectations for candidates to understand individual differences and diverse family, cultural, and community backgrounds; and, to use this understanding to plan and implement learning experiences and environments.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not understand nor recognize the individual differences and diverse family, cultural, and community background(s) that each child brings to the learning context. Candidate does not gather nor use information about individual children's unique characteristics to inform planning and implementation of learning experiences and environments.	Candidate understands and recognizes the individual differences and diverse family, cultural, and community background(s) that each child brings to the learning context. Candidate gathers information about individual children's unique characteristics but does not use it or uses it ineffectively to inform planning and implementation of learning experiences and environments.	Candidate understands and recognizes the individual differences and diverse family, cultural, and community background(s) that each child brings to the learning context and how these differences might be used to maximize a student's learning. Candidate gathers and uses information about individual children's characteristics to inform planning and implementation of learning experiences and environments that build on children's strengths and address their individual needs; they monitor effects of those experiences and environments on individual children's development and learning.	Candidate understands and recognizes the individual differences and diverse family, cultural, and community background(s) that each child brings to the learning context and how these differences might be used to maximize a student's learning; they recognize that individual learner characteristics and family, cultural, and community backgrounds are interrelated creating a unique learning profile for each student. Candidate gathers and uses information about individual children's characteristics to inform planning and implementation of learning experiences and environments that build on children's strengths and address their individual needs; they systematically monitor effects of those experiences and environments on individual children's development and learning; and consider how their own experiences and potential biases may impact their instructional decisions and their relationships with learners and their families.

Rubric for Standard 1.c – *How does the candidate work respectfully and reciprocally with families to gain insight into each child in order to maximize his/her development, learning and motivation?*

The performance characteristics describe expectations for candidates to engage in respectful and reciprocal communication with families, and to demonstrate knowledge of home culture and language, various structures of families, and different beliefs about parenting.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate may respond to communication from families but does not initiate communication with families. Candidate's communication and actions demonstrate little or no knowledge of home culture and language, various structures of families, and different beliefs about parenting; or the candidate's interactions with families are insensitive to these factors. Candidate's actions or comments denigrate families who are facing adversity and who may need support to actively participate in their child's education.	Candidate initiates communication with families but communication is one-way from school to home and focuses primarily on reporting progress or reporting problem behavior. Candidate's communication and actions demonstrate knowledge of home culture and language, various structures of families and different beliefs about parenting.	Candidate engages in respectful and reciprocal communication with families to exchange a variety of information to help motivate the child's learning and development, particularly families of children with special needs and English Language Learners. Candidate's communication and actions demonstrate knowledge of home culture and language, various structures of families and different beliefs about parenting, and understanding of the potential effects on children whose families are facing adversity and may need support to actively participate in their child's education.	Candidate engages in respectful and reciprocal communication with all families to exchange a variety of information to help the child in school, particularly families of children with special needs and English Language Learners. Candidate partners with families to motivate their child/children and to set shared challenging yet reachable goals for each child's learning and development. Candidate's communication and actions demonstrate knowledge of home culture and language, various structures of families and different beliefs about parenting; and understanding of the potential effects on children whose families are facing adversity and may need support to actively participate in their child's education; and candidate works respectfully to help all families access school and community resources to support their child's learning and development.

Rubric for Standard 2.a – *How does the candidate demonstrate and apply understanding of the elements of literacy critical for purposeful oral, print, and digital communication?*

The performance characteristics at each level describe expectations for candidates to demonstrate knowledge and understanding of the elements of literacy that are critical for purposeful oral, print, and digital communication; and use knowledge of the elements of foundational literacy to implement lessons and/or activities from an integrated, comprehensive, and balanced literacy curriculum.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate is unable to demonstrate knowledge of the elements of literacy that are critical for purposeful oral, print and digital communication. Candidate is unable to identify the foundational literacy elements in an integrated, comprehensive, and balanced literacy curriculum.	Candidate knows the elements of literacy that are critical for purposeful oral, print and digital communication. Candidate is able to identify the elements of foundational literacy in an integrated, comprehensive, and balanced literacy curriculum.	Candidate demonstrates knowledge and understanding of the elements of literacy that are critical for purposeful oral, print, and digital communication. Candidate uses knowledge of the elements of foundational literacy to implement lessons and/or activities from an integrated, comprehensive, and balanced literacy curriculum, and demonstrates an understanding of stages in the acquisition of reading skills.	Candidate demonstrates knowledge, understanding, and the ability to evaluate instructional materials for the elements of literacy critical for purposeful oral, print or digital communication. Candidate uses knowledge and understanding of the elements of foundational literacy to design and implement integrated, comprehensive, and balanced literacy lessons and activities that reflect demonstrates an understanding of stages in the acquisition of reading skills.

Rubric for Standard 2.b – *How does the candidate demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains?*

The performance characteristics at each level describe expectations for candidates to demonstrate knowledge of major mathematics concepts, algorithms, procedures, applications and mathematical practices; to make connections within and among mathematical domains, and to understand and engage students in mathematical practices and plan, using instructional connections between the mathematical practices, mathematics content topics and other curricular areas.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate is unable to demonstrate knowledge of the major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and of the connections within and among mathematical domains (number and operations in base ten; number and operations – fractions; operations and algebraic thinking; measurement and data; and geometry). Candidate is unable to demonstrate knowledge of the mathematical practices and the instructional connections between the mathematical practices and mathematics content topics.	Candidate knows major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains (number and operations in base ten; number and operations – fractions; operations and algebraic thinking; measurement and data; and geometry). Candidate's explanations demonstrate knowledge of the mathematical practices and the instructional connections between the mathematical practices and mathematics content topics.	Candidate demonstrates knowledge and understanding of major mathematics concepts, algorithms, procedures, applications and mathematical practices, and makes connections within and among mathematical domains (number and operations in base ten; number and operations – fractions; operations and algebraic thinking; measurement and data; and geometry), and across other curricular areas. Candidate understands and engages students in the mathematical practices and plans using instructional connections between the mathematical practices, mathematics content topics and other curricular areas.	Candidate demonstrates knowledge and understanding of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and makes connections within and among mathematical domains (number and operations in base ten; number and operations – fractions; operations and algebraic thinking; measurement and data; and geometry), across other curricular areas and to real-world contexts. Candidate understands and engages students in mathematical practices and plans using instructional connections between the mathematical practices, mathematics content topics, other curricular areas, and real-world contexts.

Rubric for Standard 2.c – *How does the candidate demonstrate and apply understandings and integration of the three dimensions of science: science and engineering practices, crosscutting concepts, and major disciplinary core ideas within the major content areas of science?*

The performance characteristics at each level describe expectations for candidates to demonstrate knowledge of science and engineering practices, crosscutting concepts, and major disciplinary core ideas within the major content areas of science; and, to be able to model and incorporate the practices into classroom teaching and learning activities, while implementing curricular program lessons in science.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate is unable to demonstrate knowledge of science and engineering practices, crosscutting concepts, and major disciplinary core ideas within the major content areas of science (physical, life, earth and space, engineering design). Candidate is unable to demonstrate understanding of the nature of science and how science and engineering are practiced in the classroom.	Candidate knows the science and engineering practices, crosscutting concepts, and major disciplinary core ideas within the major content areas of science (physical, life, earth and space, engineering design). Candidate's explanations demonstrate understanding of the nature of science and how science and engineering are practiced in the classroom.	Candidate demonstrates knowledge, understanding, and the ability to integrate science and engineering practices, crosscutting concepts, and major disciplinary core ideas within the major content areas of science (physical, life, earth and space, engineering design). Candidate understands the nature of science and how science and engineering are practiced and can model and incorporate the practices into classroom teaching and learning activities, while implementing curricular program lessons in science.	Candidate demonstrates knowledge, and the ability to integrate science and engineering practices, crosscutting concepts, and major disciplinary core ideas within the major content areas of science (physical, life, earth and space, engineering design) and across other curriculum areas. Candidate understands the nature of science and how science and engineering are practiced and can model, and implement curricular program lessons in science, as well as design instructional activities that encompass how science and engineering are practiced in classroom teaching and learning activities.

Rubric for Standard 2.d – *How does the candidate demonstrate understandings, capabilities, and practices associated with the central concepts and tools in civics, economics, geography, and history, within a framework of informed inquiry?*

The performance characteristics at each level describe expectations for candidates to demonstrates knowledge and understanding of the central concepts and the tools of informed inquiry within civics, economics, geography, and history; and to implement curricular program lessons in social studies which incorporate meaningful, integrative, value-based, challenging, and active processes.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate is unable to demonstrate knowledge of the central concepts and the tools of informed inquiry within civics, economics, geography, and history. Candidate is unable to demonstrate understanding of the framework of informed inquiry which guides instruction in the social studies.	Candidate knows central concepts within civics, economics, geography, and history. Candidate's explanations demonstrate understanding of the framework of informed inquiry which guides instruction in the social studies.	Candidate demonstrates knowledge and understanding and is able to describe and plan for instructional use of the central concepts and the tools of informed inquiry within civics, economics, geography, and history. Candidate understands the framework of informed inquiry which guides instruction in the social studies, demonstrating the ability to implement curricular program lessons in social studies which incorporate meaningful, integrative, value-based, challenging, and active processes.	Candidate demonstrates knowledge, and understanding, and is able to describe and plan for integrated instructional applications of the central concepts and tools of informed inquiry within civics, economics, geography, and history. Candidate understands the framework of informed inquiry which guides instruction in the social studies, demonstrating the ability to design and implement lessons in social studies that illustrate teaching and the facilitation of learning that is meaningful, integrative, value-based, challenging, and active.

Rubric for Standard 3.a - *How does the candidate administer formative and summative assessments regularly to determine students' competencies and learning needs?*

The performance characteristics at each level describe expectations for candidates to select and administer formative and summative assessments, and to use assessment to support student learning and development.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate administers required summative assessments. Candidate does not interpret assessments that have been administered.	Candidate selects and administers formative and summative assessments without making modifications to meet individual student needs. Candidate interprets formative and summative assessments to provide required data reports for accountability.	Candidate selects and administers a variety of formative and summative assessments and differentiates assessments using modifications based on students' individual learning needs. Candidate designs, administers, and accurately interprets formative and summative assessments to identify learners' needs, to monitor learning and behavior, and to report progress.	Candidate designs, selects, adapts, and administers a variety of formative and summative assessments and differentiates assessments using modifications based on students' individual learning needs. Candidate designs, administers, and accurately interprets formative and summative assessments to identify learners' needs, to monitor learning and behavior, and to report progress. Candidate provide opportunities for students' choice about how they will demonstrate understanding by designing formative and summative assessment tasks that consider individual student needs.

Rubric for Standard 3.b - *How does the candidate use assessment results to improve instruction and monitor learning?*

The performance characteristics at each level describe expectations for candidates to use assessment information to plan, monitor, and adjust instruction; and to use assessment information to provide feedback to students.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Skillful Candidate**
Candidate does not use assessment information to effectively plan instruction. Candidate provides minimal feedback to students, such as grades with no explanation.	Candidate uses assessment information to plan initial instruction but does not make adjustments during instruction based on the formative assessment data they are collecting. Candidate uses a single assessment source to provide general feedback to groups or individuals about their achievement.	Candidate uses assessment information to plan, monitor, and adapt instruction; adjusting instruction to meet the needs of groups of students. Candidate uses multiple assessment sources to provide detailed, task-specific feedback to individuals and groups about their achievement and engagement.	Candidate uses assessment information to plan, monitor, and adapt instruction to meet the needs of individuals and groups of students, providing both remediation and enrichment. Candidates use a variety of assessment sources to provide detailed, task-specific feedback to individuals and groups about their achievement and engagement in tandem with implementing assessment strategies that facilitate student reflection and self-assessment to identify their successes and struggles, efforts needed to reach their goals, and their preferred learning strategies.

Rubric for Standard 3.c - *How does the candidate plan instruction including goals, materials, learning activities and assessments?*

The performance characteristics at each level describe expectations for candidates to plan instruction, including use of instructional time.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate's instructional plans do not address goals, learning activities, materials, grouping models, educational technologies, assessments, and modifications or adaptations for students with special needs. Candidates do not plan for effective use of time in instruction.	Candidate's instructional plans address some but not all of these components: goals, materials, learning activities, grouping models, educational technologies, assessments, and modifications or adaptations for students with special needs, and does not connect or relate these components. Candidate's plans for use of instructional time do not address a balance of time for instruction, engaged student learning, and assessment.	Candidate's instructional plans are based on evidence of individual student's strengths and needs, and include use of goals, materials, learning activities, grouping models, educational technologies, assessments, and modifications or adaptations for students with special needs. Candidates allocate a balance of time for instruction, academic engagement support, learning activities and assessments.	Candidate's instructional plans are based on evidence of individual student's strengths and needs, and include coordinated use of materials, learning activities, grouping models, educational technologies, and assessments, as well as and adaptations for students with special needs. Candidates plan for use of instructional time by allocating a balance of time for instruction, engaged student learning, and assessment.

Rubric for Standard 3.d - *How do candidates differentiate instructional plans to meet the needs of every student in the classroom?*

The performance characteristics at each level describe expectations for candidates to plan for differentiating instruction for every student in the classroom, including planning scaffolding as a way to differentiate instruction.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not plan for differentiated instruction to meet the needs of subsets of students, or individual students in the classroom.	Candidate plans are differentiated based on strengths or needs of a subset of students in the classroom and include modifying content or instructional processes. Candidate plans specific strategies to scaffold learning for subsets of students but not for individuals.	Candidate plans are differentiated based on strengths and needs of individual students and include using a variety of instructional approaches, modifying content, instructional processes, products, and learning environments that address individual student interests and preferences for learning. Candidate plans specific strategies to scaffold learning for individual students by using their knowledge of current levels of student understanding, skill level, motivation, and individual strengths and needs.	Candidate plans are differentiated according to learner readiness, strengths, weaknesses, interests, and motivators of individual students, and include using a variety of instructional approaches, modifying content, instructional processes, products, and learning environments that address individual student interests and preferences for learning. Plans differentiate content by planning a variety of options that modify the difficulty, depth, or complexity of the materials Candidate plans specific strategies to scaffold learning by using their knowledge of current levels of student understanding, skill level, motivation, and individual strengths and needs. And, plans differentiate how students will demonstrate their learning.

Rubric for Standard 3.e -*How does the candidate manage the classroom by setting and maintaining social norms and behavioral expectations?*

The performance characteristics at each level describe expectations for candidates to establish, communicate, and maintain classroom rules and procedures, and to involve students in helping to establish classroom norms for behavior, social interaction, and procedures for academic work.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not establish classroom rules or procedures; or, established rules and procedures do not lead to productive interactions or engagement in learning. Candidate is ineffective in maintaining norms established by those rules or procedures. Candidate uses sarcasm or punitive consequences to attempt to manage student behavior.	Candidate creates rules for behavior and social interaction or establishes procedures for academic work; but does not involve students in establishing these norms. Candidate is inconsistent in maintaining expectations for rules and procedures	Candidate establishes rules and procedures for behavior, social interaction, and academic work, and involves students in the process of setting these norms. Candidates maintain the expectations for rules and procedures by periodically reviewing the expectations, recognizing students' successful participation, and requesting student input into revision of norms.	Candidate establishes rules and procedures for behavior, social interaction, and academic work, and involves students in the process of setting these norms. Candidates maintain the expectations for rules and procedures through explicit instruction to help students acquire such social competencies as: emotion recognition, stress-management, empathy, problem-solving, or decision-making skills.

Rubric for Standard 3.f – *How do candidates explicitly support motivation and engagement in learning for every student through a variety of evidence-based practices?*

The performance characteristics at each level describe expectations for candidates to explicitly support motivation and engagement in learning for every student.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not facilitate adequate motivation support such as scaffolding for cognitive tasks and does not provide sufficient feedback for student learning. Candidate does not implement actions intended to increase student engagement in academic learning and activities and displays teacher-student interactions that are likely to decrease motivation and engagement such as over-control, disregard for students' needs, sarcasm or negativity.	Candidate provides motivation support explicitly, through well-known practices such as arranging for choice or collaboration, but the motivation support is not integrated with teaching central concept and skills. Candidates support student engagement in learning through problem solving and inquiry.	Candidate explicitly supports student motivation through practices such as: designing classroom goals that emphasize conceptual knowledge; assisting students in setting goals for their academic work; linking academic content to students experience and interests; arranging social learning structures such as partnerships and small group collaborations; and affording students' choices of texts and tasks in learning. Candidates support student engagement in learning by implementing practices such as: affording students an abundance of materials for academic learning to assure a high volume of time spent on challenging and realistic learning tasks; scheduling sufficient time for students' deep immersion in purposeful reading, mathematics, and content learning; and providing thought provoking questions that encourage reasoning individually and collaboratively.	Candidate supports student motivation through practices such as assuring success, sharing control with learners, making school learning relevant, sustaining collaborative activities, and enabling students to become self-regulating learners in all subject areas. Candidates support engagement by setting academic goals that encourage students to generate products, displays or accomplishments that show extended disciplinary involvement and communication. Candidates differentiate engagement support for students with special needs, English language learners, and students with varying achievement levels. And, candidates use formative assessment to improve engagement support.

Rubric for Standard 4.a – *How does the candidate use a variety of instructional practices to support the learning of every student?*

The performance characteristics at each level describe expectations for candidates to use a variety of instructional practices and resource materials based on knowledge of learning theory, their own students' differences, and the interpretation of informal and formal assessments.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not use appropriate instructional practices to support student learning. Candidate does not use appropriate resource materials during instruction to support children's development of skills requisite to problem solving, and critical and creative thinking.	Candidate uses appropriate instructional practices but does not use a variety of strategies or differentiate instruction to meet the individual needs of each student. Candidate uses appropriate resources although the variety of resources is limited and not readily adapted to differentiate instruction.	Candidate uses a variety of appropriate instructional practices such as direct instruction, inquiry-based learning, and project-based learning, and makes attempts to differentiate instruction that supports the learning of every student. Candidate uses a variety of appropriate resource materials during instruction that supports the learning of every student.	Candidate varies the use of instructional practices and differentiates instruction to support the learning of every student. Candidate differentially uses a variety of resource materials that provides students with guided opportunities to make their own choices and supports the development of skills requisite to problem solving and critical thinking of every student.

Rubric for Standard 4.b – *How does the candidate teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child?*

The performance characteristics describe expectations for candidates to use sequenced and research-supported instructional approaches to teach a cohesive sequence of lessons using a variety of instructional strategies.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not use research supported instructional approaches when teaching a sequence of lessons. Candidate does not sequence instruction that provides students with connected learning opportunities.	Candidate uses research- supported instructional approaches when teaching a cohesive sequence of lessons. Candidate sequences instruction that provides students with connected learning opportunities.	Candidate consistently uses research-supported instructional approaches when teaching a cohesive sequence of lessons. Candidate sequences instruction that provides students with connected learning opportunities and sufficient opportunities to learn foundational concepts and skills with the intent of moving on to more advanced content in subsequent lessons.	Candidate consistently uses research-supported instructional approaches when teaching a cohesive sequence of lessons and differentiates instruction based on the needs of each student. Candidate sequences instruction that provides students with connected learning opportunities and sufficient opportunities to learn foundational concepts and skills, and then extends learning of advanced content based on individual student needs.

Rubric for Standard 4.c – *How does the candidate teach concepts, skills, and strategies to guide students as they learn?*

The performance characteristics at each level describe expectations for candidates to use explicit instruction to teach concepts, skills, and strategies, and monitor student progress.

Level 1 The Beginning Candidate	Level 2 The Developing Candidate	Level 3 The Competent Candidate	Level 4 The Accomplished Candidate
Candidate does not use explicit instruction to address established and developmentally appropriate goals. Candidate does not monitor student progress in learning the identified content.	Candidate uses explicit instruction to address established and developmentally appropriate goals. Candidate monitors student progress in learning the identified content.	Candidate uses explicit instruction to address established and developmentally appropriate goals based on assessment information, knowledge of students, and the candidate's knowledge of content. Candidate monitors student progress in learning the identified content and uses this information to adjust planning and instruction.	Using explicit instruction, the candidate determines and adjusts, as needed, established and developmentally appropriate goals based on assessment information, knowledge of students, and the candidate's knowledge of content. Candidate monitors student progress in learning the identified content and uses this information to provide guided instruction and practice to support students in addressing challenging learning goals.

Rubric for Standard 4.d – *How does the candidate provide feedback to guide children's learning, increase motivation, and improve engagement?*

The performance characteristics at each level describe expectations for candidates to provide feedback that is goal-oriented, timely, specific, meaningful, genuine, and age-appropriate; and that fosters the development of misconception identification skills, self-evaluation, and independence in learning.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not provide feedback to guide students' learning or the feedback provided is negative or not timely, specific, meaningful, genuine, or age-appropriate. Candidate does not provide feedback that increases student engagement and motivation to learn intended goals.	Candidate provides feedback to guide students' learning although the feedback is not consistently goal-oriented, timely, specific, meaningful, genuine and age-appropriate. Candidate does not provide feedback and assistance to students in developing error identification skills, self-evaluation, and independence in learning.	Candidate consistently provides feedback that is goal-oriented, timely, specific, meaningful, genuine, and age-appropriate. Candidate provides feedback and assistance in developing misconception identification skills, self-evaluation, and independence in learning.	Candidate consistently provides students with effective and age-appropriate feedback and provides opportunities for students to set and monitor both long range and short-range goals for their own learning. Candidate provides feedback and assistance and engages students in activities that foster the development of misconception identification skills, self-evaluation, and independence in learning.

Rubric for Standard 4.e – *How does the candidate plan, lead, and manage whole class discussion and ensure the equitable participation of every child?*

The performance characteristics at each level describe expectations for candidates to develop and deliver lessons that include whole class discussion that incorporate higher level questioning and prompting to ensure equitable participation of every student in the discussions.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not construct and use questions that foster whole group discussion. Candidate does not monitor and ensure equitable participation of every student in whole class discussions.	Candidate constructs and uses questions that foster whole group discussion, although a variety of questioning techniques is not employed. Candidate monitors and tries to ensure equitable participation of every student in whole class discussions.	Candidate constructs and uses questions that foster whole group discussion using a variety of questioning and prompting strategies that frame and reframe discussions, restate student ideas, and reinforce learning of specific instructional goals. Candidate monitors and ensures equitable participation of students in whole class discussions and incorporates strategies that encourage all students to contribute orally, listen actively, and respond to and learn from others.	Candidate constructs and uses questions that frame and reframe whole class discussions, and restate and guide student ideas, and frame and reframe discussions, restate student ideas, and reinforce learning of specific instructional goals. Candidate monitors and ensures equitable participation of students in whole class discussions, incorporating multiple strategies that foster constructive listening, speaking, and learning from others while also creating an environment where students ask appropriate questions of each other, share strategies, and critique the reasoning of others without prompting from the teacher.

Rubric for Standard 4.f – *How does the candidate organize and manage small group instruction to meet the learning needs of each child?*

The performance characteristics at each level describe expectations for candidates organize and deliver appropriate and effective lessons for a small group of students, and to monitor the progress of students and adjust instruction to address students' identified learning needs.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not develop an appropriate plan or use an effective instructional approach when teaching small heterogeneous or homogeneous group of students. Candidate does not appropriately monitor the progress of students who are placed in small heterogeneous or homogeneous groups for instruction.	Candidate either does not develop an appropriate plan or does not use an effective instructional approach when teaching a small heterogeneous or homogeneous group of students. Candidate monitors progress of students who are placed in small heterogeneous or homogeneous groups for instruction but does not use this information to appropriately adjust instruction.	Candidate develops an appropriate plan and delivers a lesson for a small heterogeneous or homogeneous group of students using an instructional approach that is effective and appropriate to the content being taught. Candidate monitors the progress of students who are placed in small heterogeneous or homogeneous groups for instruction and uses this information to appropriately adjust instruction that addresses collective learning needs of students.	Candidate develops and delivers a lesson for small heterogeneous or homogeneous groups of students using an effective approach to instruction that is responsive to the students' individual learning needs and cultural backgrounds. Candidate monitors the progress of students who are placed in small heterogeneous or homogeneous groups for instruction and uses this information to appropriately adjust instruction that addresses collective and individual learning needs of students.

Rubric for Standard 4.g – *How does the candidate organize and plan individual instruction that improves or enhances each child's learning?*

The performance characteristics at each level describe expectations for candidates to use knowledge of a student and current assessment information to set appropriate goals, organize an appropriate plan for individual instruction, and use appropriate instructional strategies for individual instruction.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not use knowledge of a student or current assessment information to identify appropriate content and instructional goals for the individual learner or does not adequately plan for individual instruction. Candidate does not use an appropriate instructional strategy to support desired learning when delivering individual instruction.	Candidate develops a plan for individual instruction using appropriate knowledge of a student and current assessment information but does not appropriately identify either content and instructional goals or does not develop an appropriate plan for individual instruction. Candidate uses an appropriate instructional strategy to support desired learning when delivering individual instruction; however, one or more critical components of the instructional strategy, such as explicit instruction, appropriate feedback, and guided practice, is missing when delivering the instruction.	Candidate appropriately uses knowledge of a student and current assessment information to identify appropriate content and instructional goals and develops an appropriate plan for individual instruction. Candidate delivers individual instruction to a student using an appropriate instructional strategy and employs critical components of the instructional strategy.	Candidate uses knowledge of a student and current assessment information (including formative and summative measures) to identify content and instructional goals and develop a plan for individual instruction that is culturally responsive. Candidate delivers individual instruction to a student using an appropriate instructional strategy, employs critical components of the instructional strategy and uses culturally responsive practices.

Rubric for Standard 5.a – *How does a candidate design and implement professional development activities based on ongoing analysis of student learning; self-reflection; professional standards, research and best practices; and standards of ethical professional practice?*

The performance characteristics at each level describe expectations for candidates to engage in professional learning based on ongoing analysis of student learning, self-reflection, professional standards, research and contemporary practices, and standards of ethical professional practice.

Level 1 The Beginning Candidate	Level 2 The Developing Candidate	Level 3 The Competent Candidate	Level 4 The Skillful Candidate
Candidate demonstrates little or no evidence of using self-reflection as a basis for their professional learning. Candidate does not demonstrate ethical professional conduct	Candidate uses self-reflection to consider their professional learning needs. Candidate demonstrates knowledge of professional ethics, associated professional standards, but does not use this knowledge to guide professional learning activities.	Candidate uses self-reflection based upon assessments of student learning and development to select and participate in professional learning activities that are aligned with professional standards, research and best practices. Candidate uses knowledge of professional ethics and associated professional standards to guide their professional learning.	Candidate uses self-reflection based upon assessments of student learning and development to develop and implement a professional learning activities plan aligned with professional standards, research and best practices; and uses on-going structured reflection to monitor plan's impact on their own teaching and students learning and development. Candidate demonstrates knowledge of professional ethics and associated professional standards that guide their practice. They examine ethical issues and societal concerns about program quality and teaching practices and use it to inform their professional learning activities.

Component *5.a* – *How does the candidate work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth?*

The performance characteristics at each level describe expectations for candidates to collaborate with other professionals to help plan and implement classroom activities; and, to collaborate with other professionals to plan and implement accommodations or modifications to meet individual student's learning and developmental needs.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate does not demonstrate ability to collaborate with others in planning or implementing class activities. Candidate does not demonstrate ability to collaborate with others in planning or implementing classroom accommodations or modifications to meet individual student's learning and developmental needs.	Candidate collaborates with classroom host teacher, or specialist teachers, or other grade level teachers, in planning or implementing class activities. Candidate collaborates with classroom host teacher, or specialist teachers, or related school professionals, or external resources including professionals and community agencies to plan classroom accommodations or modifications to meet individual student's learning and developmental needs.	Candidate collaborates with classroom host teacher, or specialist teachers, or other grade level teachers, in planning and implementing class activities. Candidate collaborates with classroom host teacher, or specialist teachers, or related school professionals, or external resources including professionals and community agencies to plan and implement classroom accommodations or modifications to meet individual student's learning and developmental needs.	Candidate collaborates with classroom host teacher, and specialist teachers, or other grade level teachers in planning, implementing, and evaluating class activities. Candidate collaborates with classroom host teacher, and specialist teachers, or related school professionals, or external resources including professionals and community agencies to plan, implement, and evaluate classroom accommodations or modifications to meet individual student's learning and developmental needs.

Component 5.b *– How does a candidate design and implement professional development activities based on ongoing analysis of student learning; self-reflection; professional standards, research and best practices; and standards of ethical professional practice?*

The performance characteristics at each level describe expectations for candidates to engage in professional development based on ongoing analysis of student learning, self-reflection, professional standards, research and contemporary practices, and standards of ethical professional practice.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
Candidate demonstrates little or no evidence of using self-reflection as a basis for their professional development. Candidate does not demonstrate ethical professional conduct	Candidate uses self-reflection to consider their professional development needs. Candidate demonstrates knowledge professional ethics, associated professional standards, but does not use this knowledge to guide professional development activities.	Candidate uses self-reflection based upon assessments of student learning and development to select and participate in professional learning activities that are aligned with professional standards, research and best practices. Candidate uses knowledge of professional ethics and associated professional standards to guide their professional development and activities.	Candidate uses self-reflection based upon assessments of student learning and development to develop and implement a professional learning activities plan aligned with professional standards, research and best practices; and uses on-going structured reflection to monitor plan's impact on their own teaching and students learning and development. Candidate demonstrates knowledge of professional ethics and associated professional standards that guide their practice. They examine ethical issues and societal concerns about program quality and teaching practices and use it to inform their professional learning activities.

Rubric for Standard 5.c – *How do candidates participate in peer and collaborative professional learning to enhance student learning?*

The performance characteristics at each level describe expectations for candidates to participate in peer professional learning activities and professional organizations to improve teaching practice or enhance student learning and development.

Level 1 **The Beginning Candidate**	**Level 2** **The Developing Candidate**	**Level 3** **The Competent Candidate**	**Level 4** **The Accomplished Candidate**
There is little or no evidence that the candidate attends activities focused on enhancing student learning and development or that the candidate participates in collaborative professional learning.	Candidate attends activities focused on enhancing student learning and development and describes how they might utilize the information to contribute to student learning and development. The candidate participates in collaborative professional learning.	Candidate attends in person or using technology, professional conferences, workshops, or other activities focused on enhancing student learning and development and describes how the information might be utilized to contribute to student learning and development. Candidate participates by contributing to collaborative professional learning, including using technology, and documents how it might be used to enhance student learning.	Candidate joins and attends local, state, or national professional organizations in person or using technology, professional conferences, workshops, or other activities focused on enhancing student learning and development and describes and describe how the information was used and how it affected student learning and development. Candidate participates by contributing to collaborative professional learning, including using technology, and documents how it was used and how it affected student learning.

C.2.8 - Approach to alignment of the CAEP 2018 K-6 Elementary Teacher Preparation Standards to CAEP accreditation standards

The CAEP 2018 K-6 Elementary Teacher Preparation Standards embraced the four InTASC principles that constitute the basis of program level review as recognized by CAEP—(A) The Learner and Learning; (B) Content; (C) Instructional Practice; (D) Professional Responsibility. The standards describe and make use of appropriate professional knowledge bases that are appropriate for preparing Elementary Education teachers, including current research (empirical research, disciplined inquiry, informed theory) and the wisdom of practice. The Standards draw on developments in P-12 educator standards from specialized professional associations related to Elementary Education and are informed by P-12 standards. The CAEP 2018 K-6 Elementary Teacher Preparation Standards focus on student learning and creation of environments that will foster student learning. Also, Elementary standards are written to describe what candidates should know and be able to do by the completion of their preparation programs in ways that can be assessed through performance in relation to these standards.

As is illustrated in the chart below, the CAEP 2018 K-6 Elementary Teacher Preparation Standards are aligned closely with these four principles.

CAEP /InTASC Principles	2018 K-6 Elementary Teacher Preparation Standards
CAEP/InTASC Principle A. The Learner and Learning	**K-6 Standard 1**
●Learner Development	Standard 1.a
●Learning Differences	Standard 1.b
●Learning Environments	Standards 1.b, 3.e
CAEP/InTASC Principle B. Content	**K-6 Standard 2**
● Content Knowledge	Standards 2.a, 2.b, 2.c, 2.d
● Application of Content	Standards 2.a, 2.b, 2.c, 2.d
CAEP/InTASC Principle C. Instructional Practice	**K-6 Standards 3 and 4**
●Assessment	Standards 3.a, 3.b
●Planning for Instruction.	Standards 3.c, 3.d, 3.f
●Instructional Strategies.	Standards 4.a, 4.b, 4.c, 4.d, 4.e, 4.f, 4.g

CAEP/InTASC Principle D. Professional Responsibility	K-6 Standard 5
● Professional Learning and Ethical Practice	Standards 5.b, 5.c
● Leadership and Collaboration	Standards 1.c, 5.a,

Supporting Materials

The CAEP 2018 K-6 Elementary Teacher Preparation Standards and Implications for Changing the Elementary Teacher Preparation Program Curriculum

The CAEP 2018 K-6 Elementary Teacher Preparation Standards for elementary teacher preparation differ substantially from the previous 2007 ACEI Elementary Teacher Preparation Program Standards even though they may appear to be simply an updated continuation of the earlier standards. The CAEP 2018 K-6 standards encompass the many significant changes in our field. First, the standards include new professional and pedagogical content and skills informed by the dynamic context of elementary school teaching and learning. Moreover, the new standards are based on a strong emerging knowledge base for teacher preparation that underscores the importance of content, professional, and pedagogical knowledge and skills, for supporting student learning and development. The design of the CAEP 2018 standards also differs from the 2007 ACEI standards in that they are conceived and expressed in more integrated and holistic terms designed to better reflect the complex and organic practice of K-6 teaching and learning by candidates who are completing an initial K-6 Elementary Education teacher preparation program. Finally, the new content and the integrated nature of the CAEP 2018 K-6 Elementary Teacher Preparation Program Standards will require programs to carefully evaluate the design and implementation of both program curriculum and key program assessments used to demonstrate how program completers meet the new standards.

New Standards for the 21st Century Beginning K-6 Elementary Teacher

The dawn of the 21st century reveals a new and challenging landscape for K-6 elementary teachers. A landscape requiring new knowledge and skills for effective practice and new ways of thinking about child development, families and communities; content knowledge necessary for teaching content; assessment literacy; motivation and engagement; instructional practices; and professional development.

Beginning K-6 Elementary teachers will encounter increasingly greater diversity among children, families, and communities with whom they must work. Elementary teachers are encountering greater cultural diversity, increasing numbers of English Language Learners, and a broader range of student needs and abilities. This diversity demands multiple approaches to understanding and engaging each student in the learning process. There is a growing expectation that effective elementary teachers will have greater responsibility for involving families and communities in helping each student learn and develop. Understanding and engagement of diverse students, families and communities and the ability to work collaboratively with a wide range of professional colleagues are now essential features of the K-6 elementary landscape.

The new 21st century K-6 teacher will also encounter demands for a deeper understanding of content knowledge for teaching, particularly in the areas of literacy, mathematics, science, and social studies; in addition, there are increasing expectations for teachers to be able to integrate teaching and learning across multiple content areas. Beginning elementary teachers are faced with new demands for understanding and use of digital technologies to help all students learn. More than ever, school learning involves more than what happens within the four walls of the classroom.

Assessment is an omnipresent and dynamic feature of the K-6 elementary school landscape. The new K-6 teacher will encounter demands for a wider variety of assessments, and for greater use of formative assessment to measure and monitor planning, instruction, and student learning and development. New K-6 teachers are expected to demonstrate greater knowledge, understanding, and skill in developing and using a range of formative and summative assessments; use assessment data to understand each student's progress; guide and revise instruction based on assessment data; and provide feedback to learners about their achievement, development, and engagement.

Though beginning K-6 elementary grade teachers are facing new challenges, they are supported by a strong and growing knowledge base around student motivations and engagement in learning. More is known about planning for an optimal balance of teacher instruction, engaged student learning, and assessment; and about designing learning activities to optimize academic access and engagement for every student. Similarly, there is more knowledge about the role of managing the classroom learning environment by adapting classroom procedures to each learner's cognitive and motivational needs.

The professional knowledge base under-girding effective instruction also provides support and guidance for beginning K-6 elementary school teachers. There is strong evidence for a variety of high-leverage instructional practices, which when delivered through a cohesive sequence of lessons, can support effective instruction and improved learning for every student. The field knows more now about teaching content, providing positive and constructive feedback to guide student learning, increase motivation, and improve engagement. The professional knowledge base provides new insights into leading whole group discussions, organizing and managing effective small group instruction to differentiate teaching to meet the learning needs of each student; and, organizing and managing individual instruction that provides targeted, focused, intensive instruction that improves or enhances each student's learning.

In current K-6 elementary school work settings, K-6 Elementary Teacher Preparation Program completers encounter work settings that increasingly expect them to collaborate with other professionals to plan and implement classroom activities and accommodations or modifications to meet individual student's learning and developmental needs. K-6 elementary teachers are now being expected to engage in professional development based on ongoing analysis of student learning, self-reflection, and professional standards. They are also expected to participate in peer and collaborative professional learning that is linked to enhanced student learning.

Implications for Elementary Teacher Preparation Curriculum

One purpose of the CAEP 2018 K-6 Elementary Teacher Preparation Standards is to provide clear guidance for a K-6 Elementary Teacher Preparation Program curriculum. The CAEP 2018 Elementary Standards are a baseline point of reference for pre-service programs as they design opportunities for elementary teacher candidates to learn new professional knowledge and skills, practice applying new knowledge and skills in field settings, and demonstrate during capstone clinical experiences that they

meet the new standards. In response to the changing K-6 elementary education landscape, the five new K-6 standards focus more sharply than in the past on essential teacher knowledge and skills related to diversity, child development, families, communication, and collaboration. The new standards also require beginning K-6 teachers to possess a deeper content knowledge than previously expected, as well as a deeper understanding of digital learning. These standards also reflect the importance of assessment literacy and expect higher skill development in the use of assessment data to guide planning, instruction and feedback. There is greater emphasis on the knowledge base related to motivation and engagement, and the related knowledge bases for social and emotional learning in the K-6 years. In addition, there is increased emphasis on researched-based practices and the expectation of practice-based teacher education.

The five new K-6 Elementary Education Teacher Standards are deeper rather than broader. There was a conscious effort to focus on essential knowledge and skills that are well supported by our professional knowledge base as contributing to K-6 student development and learning. While the standards are organized into five separate statements, there is a high degree of intentional integration across standards; knowledge of child development, content, assessment, planning, learning environments, instruction, diversity, and digital learning are mutually supportive cross-cutting themes across all standards. Similarly, elementary teacher preparation program curriculum should reflect these cross-cutting themes in coursework, assignments, field and clinical experiences, and assessments.

The content of each CAEP 2018 Elementary standard and component has direct implications for elementary teacher preparation programs. Elementary Education teacher preparation programs should use each Component statement and corresponding Supporting Explanation to evaluate how the program's curriculum provides candidates with opportunities to learn new professional knowledge and skills, practice applying new knowledge and skills in field settings, and demonstrate during capstone clinical experiences that they meet the new standard's component using the rubric criteria. The 2018 K-6 Elementary Teacher Preparation Standards will require all Elementary Education teacher preparation programs to analyze and revise curriculum content, opportunities for learning, and means of assessment.

Standard 1 – Understanding and Addressing Each Child's Developmental and Learning Needs

The CAEP 2018 K-6 Elementary Standard 1 contains three components that focus on knowledge of child growth and development, using understanding of individual differences and diverse families and communities, and working respectfully and reciprocally with families, colleagues and school and other professionals. This standard now includes strong emphasis on using knowledge of child growth and development in planning, implementing, and assessing learning experience and environments. Finally, Standard 1 now includes an emphasis on working effectively with families based on respectful and reciprocal relationships.

Standard 2 – Understanding and Applying Content and Curricular Knowledge for Teaching

The CAEP 2018 K-6 Elementary Standard 2—the subject matter content standard—now includes four components that focus on the content areas of literacy, mathematics, science, and social studies, and requires beginning K-6 teachers to possess deeper content knowledge than previously expected, as well as a deeper understanding of digital learning. There is also greater emphasis on candidate ability to make purposeful connections between or across the curricular areas of literacy, mathematics, science, and social studies.

Standard 3 – Assessing, Planning, and Designing Contexts for Learning

The CAEP 2018 K-6 Elementary Standard 3 focuses on assessing, planning, and designing contexts for learning. Six components are defined including assessment and using assessment data, planning for instruction and differentiation of instruction, managing the classroom-learning environment, and supporting student motivations and engagement in learning. There are important implications from Standard 3 for Elementary Education teacher preparation curriculum. Standard 3 now mandates that an elementary teacher preparation program curriculum include a greater emphasis on learners with cognitive, cultural, and emotional strengths and needs; increased attention to social and emotional development as goals for K-6 teaching; an increased focus on digital learning and resources; and, much greater attention to engagement and motivation of diverse learners. The Standard 3 Component statements and the corresponding Supporting Explanations are essential reference points for aligning program curriculum to the new Elementary Standards, as well as for delivering effective instruction that meets the needs of each child.

Standard 4 – Supporting Each Child's Learning Using Effective Instruction

The CAEP 2018 K-6 Elementary Standard 4 is defined by seven component statements that demonstrate a narrow but deep focus on knowledge-based, high leverage instructional practices. This standard reflects a less is more perspective as candidates need to demonstrate greater competence in a few key areas rather than minimal exposure to many instructional strategies. The 2018 Standard 4 also includes a greater emphasis on meeting the learning needs of each child, as well as a much enhanced and targeted focus on motivation and engagement. Furthermore, Standard 4 components are inextricably tied to Standards 1, 2, and 3, as the delivery of instruction requires knowledge of each child's developmental and learning needs, knowledge of the content being taught, and skill in assessing, planning and designing contexts for learning. Careful attention to the content of each Standard 4 Component and Supporting Explanation in a K-6 Elementary teacher preparation program curriculum is essential for candidates to deliver effective instruction that meets the needs of each child.

Standard 5 – Developing as a Professional

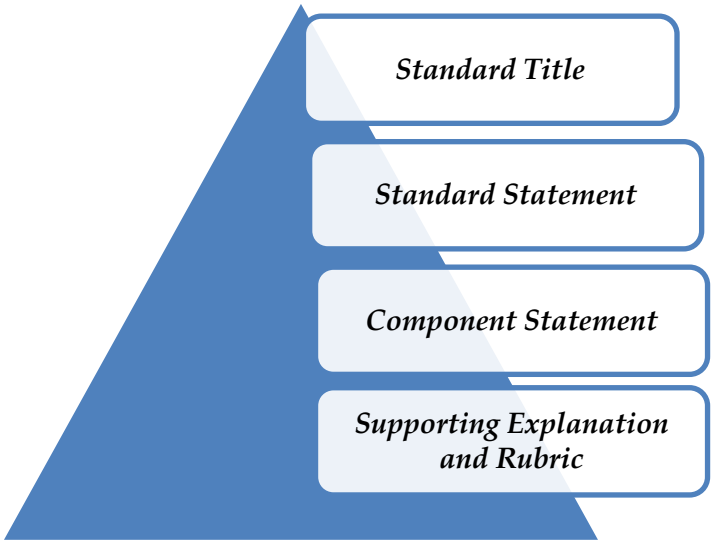
The CAEP 2018 K-6 Elementary Standard 5 is comprised of three components organized around collaboration, professional learning, and professional learning communities. Unlike the previous standard on professional development, the new 2018 Standard 5 frames each component in terms of impact on student learning and development.

Understanding and Using the 2018 K-6 Elementary Standards for Program Curriculum Development

The CAEP 2018 K-6 Elementary Teacher Preparation Standards express knowledge and skill expectations for pre-service K-6 elementary candidates who are completing an initial Elementary Education teacher preparation program. As such, these standards will be useful to Elementary Education preparation programs, faculty, and candidates. The new standards provide an important point of reference for programs to examine their curriculum, field, and clinical experiences, key assessments, and rubrics. These standards are also for use by states and policy makers concerned with K-6 elementary teacher performance. The goal of these standards is to influence K-6 elementary teacher preparation programs, to guide needed transformation and redevelopment, to provide resources to states in establishing their own Elementary Education teacher standards, and to provide input into policies regarding K-6 elementary teacher performance expectations and assessment.

Whatever use is made of the CAEP 2018 K-6 Elementary Teacher Preparation Standards, it is critical to recognize that a *Standard* is more than its title or the standard statement itself. Rather, each Elementary standard is the sum of the title, the standard statement, the key components, the supporting explanation, the rubrics, and the assessment evidence guidelines. Each of these elements contribute to the meaning of the whole, and the whole is diminished if any part is not considered when using these standards. The supporting explanations for the standards and components are written to provide concrete guidance regarding expected candidate performance as described in the standard statement and components.

There are five K-6 Elementary Teacher Preparation Standards and each standard is composed of four related parts that may be usefully thought of as arranged in a pyramid, from the narrow top to the broad bottom: the standard title, the standard statement, the components, and the supporting explanation.



First, at the top of the pyramid is the *Title of the Standard* encompassing the primary focus and content of the standard; the title typically becomes the ubiquitous short-hand identification for a standard.

The second and more specific layer of the pyramid is the *Standard Statement*, a concise, coherent statement of candidate knowledge and skills emphasizing what candidates have students do and focusing on student learning. Standard statements are limited to the most essential knowledge and skills that should be attained by candidates in Elementary Education programs. Standard statements are limited to what candidates who are completing an Elementary Education program must know and be able to do. These standards are written for education professionals seeking their first or initial teaching license. Finally, Standard statements are written so that each concept that is to be a component appears in the language of the standard.

A third part of the CAEP 2018 K-6 Elementary Teacher Preparation Standards are the *Components*. The Components expand upon the standard statement; they are a conceptual outline for the standard statement; they provide structure for the standard. Each concept that is a component appears in the language of the standard. The components focus on the critical aspects of standards for Elementary Education so that faculty can reasonably accommodate the standards in an initial Elementary Education teacher preparation program.

The fourth and foundational portion of each K-6 Elementary Teacher Preparation Standard is the *Supporting Explanation* which offers a general description of why that standard is important for Elementary Education preparation. The supporting explanation provides guidance regarding the scope and focus of the standard. The supporting explanation illustrates how the standard appears in practice—what candidates must be able to know and do to demonstrate that they meet the standard. The supporting explanation provides essential guidance to Elementary Education teacher education programs in the following areas: program curriculum planning, development of performance assessments, and creation of scoring rubrics that are aligned with the standards.

TOOL FOR EVALUATING TEACHER PREPARATION CURRICULUM ALIGNMENT WITH CAEP 2018 K-6 ELEMENTARY STANDARDS

A major challenge facing teacher education is fragmentation across coursework and field experiences, or all too often, no connection between coursework and field experiences. The NCATE (2010) report *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers* called for teacher preparation programs to "shift away from a norm which emphasizes academic preparation and course work loosely linked to school-based experiences. Rather, (teacher education) must move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses." (p. ii). The NCATE report goes on to state "Candidates must develop a base of knowledge, a broad range of effective teaching practices, and the ability to integrate the two to support professional decision-making" (p. 5).

The new CAEP 2018 K-6 Elementary standards and components were developed with these ideas and related challenges at the forefront. These standards and components were written with the expectation that they will be centered in clinical practice, and that coursework will be intimately tied to field experiences to support the development of these practices. Given the need to center preparation in clinical practice and given the intimate links between and across standards and components, assessments will, of necessity, measure components across standards, and when a matrix is used to align coursework with the standards/components, the links between and across coursework and field/clinical experiences should be apparent for each component.

While there are many ways to evaluate alignment of the CAEP 2018 K-6 Elementary Standards with an Elementary teacher preparation program curriculum, the matrix provided below provides an important point of reference for determining how an elementary teacher preparation program curriculum aligns with the new CAEP 2018 K-6 Elementary standards. Analysis of the standards/curriculum alignment should include the capstone student teaching/internship, pre-capstone field experiences, teaching methods classes, and core professional, pedagogical and content courses. For each of the 23 standard components, K-6 elementary program faculty should come to consensus on answers to the following questions.

1. How does coursework provide opportunities for candidates to acquire new professional knowledge and skills?
   - ▪Is the content and meaning of the component statement clearly reflected in course objectives?
   - ▪What activities and assignments provide opportunities for learning?
   - ▪How is learning related to the component statement assessed during coursework?

2. How are pre-student teaching/internship opportunities structured to provide opportunities for candidates to practice applying the knowledge and skill statements in each standard component?
   - ▪Is the content and meaning of the component statement clearly reflected in assignments for field experience activities?
   - ▪How will field experiences provide opportunities for candidates to practice applying component knowledge and skills across the full K-6 grade range?
   - ▪How is application of knowledge and skills related to the component assessed during field experiences? How is feedback provided to the candidate?

3. How are capstone clinical experience opportunities structured to allow the candidate explicit opportunities to demonstrate that they meet the knowledge and skill statements in each component?
   ▪ How is demonstration of the component knowledge and skills assessed during capstone clinical experiences?

4. How are the component statement knowledge and skills integrated across coursework, field, and clinical experiences?
   ▪How are the component knowledge and skills introduced and developed in coursework, applied and practiced in increasingly complex field experience activities and settings, and demonstrated and assessed in capstone clinical settings?

STANDARD 1 - Understanding and Addressing Each Child's Developmental and Learning Needs. Candidates use their understanding of child growth and development, individual differences, and diverse families, cultures and communities to plan and implement inclusive learning environments that provide each child with equitable access to high quality learning experiences that engage and create learning opportunities for them to meet high standards. They work collaboratively with families to gain a holistic perspective on children's strengths and needs and how to motivate their learning.

1.a - Candidates use their understanding of how children grow, develop and learn to plan and implement developmentally appropriate and challenging learning experiences within environments that consider the individual strengths and needs of children.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

1.b - Candidates use their understanding of individual differences and diverse families, cultures, and communities to plan and implement inclusive learning experiences and environments that build on children's strengths and address their individual needs.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:

Integration across coursework, assessments, field, and clinical experiences:

1.c - Candidates work respectfully and reciprocally with families to gain insight into each child to maximize his/her development, learning and motivation.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

STANDARD 2 - Understanding and Applying Content and Curricular Knowledge for Teaching. Candidates demonstrate and apply understandings of major concepts, skills, and practices, as they interpret disciplinary curricular standards and related expectations within and across literacy, mathematics, science, and social studies.

2.a – Candidates demonstrate and apply understandings of the elements of literacy critical for purposeful oral, print, and digital communication.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

2.b - Candidates demonstrate and apply understandings of major mathematics concepts, algorithms, procedures, applications and mathematical practices in varied contexts, and connections within and among mathematical domains.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:

Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

2.c - Candidates demonstrate and apply understandings and integration of the three dimensions of science and engineering practices, cross-cutting concepts, and major disciplinary core ideas, within the major content areas of science.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

2.d - Candidates demonstrate understandings, capabilities, and practices associated with the central concepts and tools in Civics, Economics, Geography, and History, within a framework of informed inquiry.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

STANDARD 3 – Assessing, Planning, and Designing Contexts for Learning. Candidates assess students, plan instruction and design classroom contexts for learning. Candidates use formative and summative assessment to monitor students' learning and guide instruction. Candidates plan learning activities to promote a full range of competencies for each student. They differentiate instructional materials and activities to address learners' diversity. Candidates foster engagement in learning by

establishing and maintaining social norms for classrooms. They build interpersonal relationships with students that generate motivation, and promote students social and emotional development.

3.a - Candidates administer formative and summative assessments regularly to determine students' competencies and learning needs.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

3.b - Candidates use assessment results to improve instruction and monitor learning.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

3.c - Candidates plan instruction including goals, materials, learning activities and assessments.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

3.d - Candidates differentiate instructional plans to meet the needs of diverse students in the classroom.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

3.e - Candidates manage the classroom by establishing and maintaining social norms and behavioral expectations.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

3.f - Candidates explicitly support motivation and engagement in learning through diverse evidence-based practices.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

Standard 4 – Supporting Each Child's Learning Using Effective Instruction. Candidates make informed decisions about instruction guided by knowledge of children and assessment of children's learning that result in the use of a variety of effective instructional practices that employ print, and digital appropriate resources. Instruction is delivered using a cohesive sequence of lessons and

employing effective instructional practices. Candidates use explicit instruction and effective feedback as appropriate, and use whole class discussions to support and enhance children's learning. Candidates use flexible grouping arrangements, including small group and individual instruction to support effective instruction and improved learning for every child.

4.a - Candidates use a variety of instructional practices that support the learning of every child.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

4.b - Candidates teach a cohesive sequence of lessons to ensure sequential and appropriate learning opportunities for each child.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

4.c - Candidates explicitly teach concepts, strategies, and skills, as appropriate, to guide learners as they think about and learn academic content.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

4.d - Candidates provide constructive feedback to guide children's learning, increase motivation, and improve student engagement.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

4.e - Candidates lead whole class discussions to investigate specific content, strategies, or skills, and ensure the equitable participation of every child in the classroom.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

4.f - Candidates effectively organize and manage small group instruction to provide more focused, intensive instruction and differentiate teaching to meet the learning needs of each child.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

4.g - Candidates effectively organize and manage individual instruction to provide targeted, focused, intensive instruction that improves or enhances each child's learning.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

STANDARD 5- Developing as a Professional. Candidates promote learning and development of every child through participation in collaborative learning environments, reflective self-study and professional learning, and involvement in their professional community.

5.a - Candidates work collaboratively with colleagues, mentors, and other school personnel to work toward common goals that directly influence every learner's development and growth.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences:

5.b - Candidates design and implement professional learning activities based on ongoing analysis of student learning; self-reflection; professional standards, research and contemporary practices; and standards of ethical professional practice.

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:

Integration across coursework, assessments, field, and clinical experiences:

5.c - Candidates participate in peer and professional learning communities to enhance student learning

Coursework opportunities to learn knowledge and skills:
Field Experience opportunities to practice applying knowledge and skills:
Clinical Experience opportunities to demonstrate competence in knowledge and skills:
Integration across coursework, assessments, field, and clinical experiences: