

For each subject area, National Board Standards are developed by outstanding educators in that field who draw upon their expertise, research on best practices, and feedback from their professional peers and the education community. Once adopted by National Board's teacher-led Board of Directors, these standards form the foundation for National Board Certification.

There are 18 sets of standards specific to the varying content and developmental specialties of educators. The standards are comprehensive and written holistically by teachers, for teachers. Common themes, based on the Five Core Propositions, are embedded in every set of standards. Conversations and professional learning based on common themes in the standards can be a rich activity and entry point into the full standards. These documents were created to support the facilitation of such professional learning and should not be used by candidates as a substitute for the standards in their certificate area. For the standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit nbpts.org.

STANDARDS STUDY

National Board Professional Teaching Standards



Content Knowledge

www.nbpts.org

Table of Contents

<u>Art (EAYA) Standard IV: Content of Art</u>	3
<u>Art (EMC) Standard IV: Content of Art</u>	11
<u>Career and Technical Education (ECYA) Standard III: Knowledge of Content</u>	16
<u>English as a New Language (EMC) & (EAYA) Standards IV & V</u>	38
<u>English Language Arts (EA) & (AYA) Standards V, VI, VII & VIII</u>	53
<u>Exceptional Needs Specialist (ECYA) Standards II, VI & VIII</u>	66
<u>Generalist (EC) Standards I & IV</u>	91
<u>Generalist (MC) Standard IV: Knowledge of Content and Curriculum</u>	121
<u>Health Education (EAYA) Standard II: Knowledge of Subject Matter</u>	134
<u>Library Media (ECYA) Standard III: Knowledge of Library and Information Studies</u>	138
<u>Literacy: Reading-Language Arts (EMC) Standards VI, VII, VIII, IX & X</u>	142
<u>Mathematics (EA) & (AYA) Standards II & VI</u>	151
<u>Music (EMC) & (EAYA) Standard II: Knowledge of and Skills in Music</u>	162
<u>Physical Education (EMC) & (EAYA) Standard II: Knowledge of Subject Matter</u>	165
<u>School Counseling (ECYA) Standards II, III & IV</u>	170
<u>Science (EA) & (AYA) Standard II: Knowledge of Science</u>	179
<u>Social Studies-History (EA) & (AYA) Standard III: Content</u>	185
<u>World Languages (EAYA) Standards II, III & IV</u>	201

Abbreviation	Definition	Age range
AYA	Adolescence through Young Adulthood	14-18+ years old
EC	Early Childhood	3-8 years old
EA	Early Adolescence	11-15 years old
EAYA	Early Adolescence through Young Adulthood	11-18+ years old
ECYA	Early Childhood through Young Adulthood	3-18+ years old
EMC	Early and Middle Childhood	3-12 years old
MC	Middle Childhood	7-12 years old

ART (EAYA) <i>Early Adolescence through Young Adulthood</i>	NOTES
STANDARD IV: Content of Art	
OVERVIEW: Accomplished art teachers demonstrate a comprehensive understanding of the essential knowledge, concepts, skills, and processes that compose the content of art.	
<p>Accomplished art teachers have a thorough knowledge of the content of the visual arts that extends to the perception, production, study, interpretation, and judgment of works of art, design, and visual culture made by artists and designers from various cultures, historical periods, and locations. Teachers know and understand various art forms and their complex attributes, origins, contents, and contexts. Teachers know that the creation and study of art are inextricably intertwined. They fully understand the unique language of the field and the way visual images and forms communicate meaning.</p> <p>Accomplished teachers value a comprehensive approach to art education through the integration of art making, art criticism, art history, and aesthetics. They combine a breadth of general content knowledge with in-depth knowledge in at least one area of expertise. They understand and can demonstrate art-making skills. They understand and can articulate the qualities and techniques used in creating works in a variety of media, styles, and forms. They have a thorough understanding of artistic processes, such as gathering information; developing ideas or concepts; exploring options; planning, developing, and refining ideas; selecting and using art media and processes safely, effectively, and with technical proficiency; and evaluating or critiquing a finished product. They know that through creative processes, artists and designers exercise intuition, emotion, reasoning, critical judgment, cognition, and physical skills to create works that reflect their unique circumstances.</p> <p>Accomplished teachers can communicate concepts, feelings, and beliefs by creating works of art in a range of media, styles, and forms. They can articulate the creative processes that they use and the significance of the content of their artwork. Orally or in writing, accomplished teachers can make informed analyses, interpretations, and judgments about diverse works of art, including their own, those of their students, and those of other artists. Teachers know and understand the critical role that discussion plays in learning about, studying, and creating works of art. (See Figure 1 for a visual representation of the content of art.)</p> <p>Teachers Understand the Complex Attributes of Works of Art</p> <p>Accomplished teachers know that works of art and design are classified by a wide range of traditional and contemporary forms, modes, or types that can be categorized as fine, folk, decorative, and functional. These categories include, but are not limited</p>	

Reprinted with permission from the National Board for Professional Teaching Standards. All rights reserved.

to, painting, drawing, printmaking, sculpture, photography, fiber arts, environmental design, video, ceramics, collage, architecture, product design, fashion design, conceptual or performance art, and computer-generated images. They understand that making art involves the interrelationship of a variety of factors, including choice of art form, idea, subject, style, composition, medium, artist's intent, context, cultural environment, and experiences. They know that throughout creative processes, a dialogue occurs between the maker and the medium, synthesizing intuitive, analytic, and cognitive skills. Accomplished teachers understand and can communicate that artistic creation is a continual series of aesthetic interactions between the artist and the artwork. The concepts and forming processes are inherently woven together to create the art form.

Teachers Understand Art Forms and Forming Processes

Teachers know that art is produced by means of forming processes—the use of media, tools, and techniques. Although some media and techniques have existed for thousands of years (e.g., charcoal, clay, fibers, stone; drawing, painting, weaving, carving), accomplished teachers know that many of the techniques for using such traditional media remain essentially unchanged. In the contemporary art world, artists often use traditional or nontraditional tools and materials in unique ways and, as a result, invent techniques much different from the original intended function. The contexts in which artists work greatly affect the media or forms that artists choose. For example, artists without formal training create without knowledge of rules; they may use unconventional or found materials. On the other hand, artists from some cultures may carefully maintain tradition, strictly adhering to forming processes and passing on tools and techniques to successive generations. Accomplished teachers know how artists create art forms using a variety of methods and media. These teachers have general knowledge of a wide range of media and forming processes and in-depth technical knowledge and proficiency in one or more areas; they know and follow regulations regarding health and safety as they use media, tools, techniques, and processes.

Teachers Understand the Influence of Technology on Art

Teachers understand the influence of technology on the field of visual arts throughout history. They understand the impact of technologies on the development of traditional and contemporary art forms and the media, tools, and techniques with which they are made. They recognize the powerful role of computer technology, computer graphics, computer software, digital cameras, CD-ROMs, and the Internet in contemporary society, and they understand the educational and artistic implications of these resources for the twenty-first century. Teachers know that new and emerging media can extend works of art into multiple dimensions that emulate visual, spatial, and temporal qualities simultaneously. Accomplished teachers understand how the digital capabilities of recording and demonstrating sight, sound, and movement over time exceed the limitations of traditional media and offer new possibilities in the creation and teaching of art. Whether the medium is traditional or emerging, accomplished art

teachers recognize the many ways that artists give visual form to their concepts, thoughts, and feelings.

Teachers understand how media, modes, styles, and forms have inherent qualities that lend themselves to various art forms. These teachers know how technical control of art making is essential to giving form to ideas. They also understand how experimentation can lead to a repertoire of art techniques. They seek opportunities to build on prior understanding, sensibilities, and technical skills, always seeking multiple possible solutions. At the same time, teachers understand that in some contexts and cultures, the purpose of art is not to be unique. In such contexts, artists value and strive to master well-established techniques to create traditional motifs and art forms to a level of perfection.

Teachers Understand the Form, Qualities, and Styles of Art

Accomplished teachers know how works of art convey various conceptual, expressive, and aesthetic qualities, which are influenced by the ways that elements of line, mass, shape, color, and texture are presented. They understand that these elements are arranged to convey meanings or evoke a range of feelings and ideas. The expressive qualities of the finished product evoke various reactions by the artist and other viewers. The elements and principles of art and design (sensory and formal properties) are sometimes described as the “language” of art; the elements serve as the visual pieces, symbols, or structural components (e.g., color, line, shape, value, texture), whereas the principles—the organizational components (e.g., pattern, balance, repetition, emphasis, unity)—guide how some artists arrange the expressive features into a structural whole or a composition in order to create certain effects with media. Accomplished teachers know that these elements and principles of art are characteristic of Western traditional art and represent only one way to study and create works of art. They understand that many philosophies of art, including contemporary approaches, reject this Western formalist analysis. They understand that to apply these concepts to work outside the Western tradition is not authentic to the aesthetics, values, and beliefs of the culture. Teachers also know that elements and principles of design should not be confused with other types of design within the general realm of visual arts, such as graphic design, architecture, videographics, set design, and fashion design—creative areas in which function and audience are considered along with aesthetic qualities.

Teachers know that art works may include characteristics of style that are related to a specific artist, culture, time, or place. As viewers study and interpret works of art, they will encounter such styles as Expressionism, Realism, Abstraction, or Fantasy. They know that styles may vary significantly and be individual, historic, national, or regional. They know that ways of using tools, media, and processes contribute significantly to such artistic styles as Super-Realism or Impressionism. They clearly understand the importance of an artist’s choice of style in relation to conveying intended concepts, feelings, or subject matter. Accomplished teachers know that even an individual artist’s style can change over time, evolving in relation to personal experiences and influences, such as societal, political, economic, or geographic.

Teachers Understand the Contexts of Art

Teachers are knowledgeable about the world of art—traditional, popular, and contemporary. Accomplished teachers understand that people may create to fulfill their need for self-expression. Through endeavors with various media and art forms, teachers know how works of art represent dreams, aspirations, thoughts, symbols, or ideas; function in ceremonies and rituals; and depict, decorate, and beautify shelter, clothing, and tools. Forms that function differently in various societies may be classified either as art or artifact, depending on the audience making the judgment.

Accomplished teachers know that art links people through universal experiences that transcend culture, time, and place. They are also aware that art has served a variety of roles, functions, and purposes for different people in various times and places and that art can be found in a variety of human contexts, such as homes, public spaces outdoors, museums, galleries, schools, libraries, and corporate offices. Teachers know that the study of art as a basic means of communication gives insight into human cultures and can lead to a better understanding of human experience. Teachers further understand that the study of art is a meaningful, fulfilling, lifelong endeavor. They know that experience in the visual arts influences the development of personal belief systems and world views that meaningfully connect diverse peoples among global communities.

Teachers clearly understand the impact that art has had, and continues to have, on all of society. They know that art communicates social values, but it also challenges and shapes them. Rituals and customs of society can be found in art, as well as evidence of beliefs and values within communities in various cultural contexts. Works of art create historical records of societies, but they also can question or challenge cultural traditions and practices. Works of art have the power not only to unify societies but also to illustrate divisions within peoples. Accomplished teachers understand the complex interconnections of art to the development and preservation of societal structures.

Visual arts teachers recognize the many ways that the visual arts have contributed to communication, celebration, recreation, occupations, entertainment, politics, and religion. They can analyze the diverse functions of the visual arts in the workplace in various eras and cultures. Accomplished teachers know how the visual arts function in commercial applications (e.g., mass media, environmental, and product design), and they understand how careers and jobs in the visual arts vary in relation to cultural, societal, and historical changes.

Accomplished teachers know that creating tangible works in the visual arts involves the interrelated acts of perceiving, thinking, feeling, imagining, and doing. They know that some works are created for aesthetic enjoyment or display; that others have significant roles or functions in everyday life for such events as ceremonies, rituals, or special occasions; and that others are designed to fulfill a specific function for a particular audience or groups of users. Regardless of the reasons works are created or designed, they reflect the contexts in which they were conceived.

Teachers know that context relates to the particular culture, time, and place in which artworks are created to fulfill particular societal and aesthetic roles, functions, or purposes. Some works of art are accompanied by little or no evidence of their origins, whereas others have elaborate written histories explaining events that affected their creation and their influence on subsequent works of art. Teachers understand the various ways that artists and media are affected by context. They recognize that works of art are commonly classified by style, function, and genre—classifications that depend largely on contextual factors. They understand the complex interrelationships of the context of the artist with the context in which the art was made, the context of the viewer, and the context in which the work is viewed and studied. Accomplished teachers know that studying art or artifacts out of context can result in misinterpretation, inaccurate characterizations, and assignment of meanings, roles, or functions that might not have been intended. They are also aware that art, artists, and art education have served a variety of roles, functions, and purposes for different people in various times and places, and they understand how these elements change over time.

Teachers Understand the Ideational Aspects of Art

Works of art also have content—the ideas, messages, or meanings that artists communicate through forming processes. Art objects may communicate universal themes or ideas as varied as the journey of life, imaginary worlds, rites of passage, visions of utopia, the triumph of good over evil, the relationship of humans to nature, and spiritual values. The content of the work of art communicates the artist's intention. Artists and designers symbolize, abstract, condense, and transform the ideas and realities of their worlds through various types of art media, thereby communicating messages from their own unique points of view. Teachers know that works of art might encompass aspects of the real or imaginary lives of artists, depicted through images stemming from their cultural backgrounds and translated into physical form. Works of art can also reflect the subjective perspectives of the artist or the events and entities external to the art maker.

When artists transform ideas into physical objects, the images they create depict a broad range of subjects, symbols, metaphors, or themes. Teachers know that although the subject matter of works of art may be representational, it can also be metaphoric or symbolic, characterizing and illuminating one event by referring to another. They know that visual, spatial, and temporal factors influence the way artists communicate meaning and evoke feelings, moods, and ideas through their works. Accomplished art teachers know that subject matter may range from portraits, still life, fantasy, religion, and literature to genre. They understand that subject matter may reflect the culture from which art originates, having special significance or symbolic meaning in that context. The unique personal experiences of artists are reflected in subject matter; as viewers study and interpret works, the artist's thoughts and feelings about the subject may become more apparent. Accomplished art teachers also know how to comprehend the subject matter of art works with no recognizable objects by responding to the ideas and emotions conveyed through color, expression, or techniques used. Teachers know that works of art are highly complex in their intrinsic

content, in the extrinsic characteristics of the context in which they were created, and in the changing contexts that surround their study, interpretation, and evaluation.

Teachers Know How to Study and Interpret Art

Teachers understand that interpretation gives meaning to works of art and can be conducted through a variety of processes, including description and analysis of characteristics of the works and the contexts in which they were created. Teachers understand that interpretations are informed hypotheses about meaning, intent, or significance based on thorough observation of the attributes of a work of art. They know that interpretations can be enriched by the study of the writings of historians, aestheticians, and critics. Interpretations integrate the expressive qualities of a work with a consideration of how the hypothetical meaning or message is related to the events or circumstances in which the work was created. Accomplished teachers know that through interpretation, viewers come to make sense of works of art, experiencing meaning at a much deeper level rather than merely responding to visual characteristics.

Teachers Understand How Art Affects Human Experience

Teachers know that artwork can profoundly affect or influence human experiences in a variety of ways. The resulting aesthetic responses—effects—range from heightened pleasure to pain, enjoyment to revulsion, excitement to calmness. Both pleasing and disturbing aesthetic experiences can result when individuals appreciate and understand works of art. Viewers are affected by the literal, visual, and expressive qualities of a work of art through aesthetic perception, a combination of knowledge about a work and sensory and emotional reactions to the work. Through aesthetic perception, the viewer responds to the subtleties of detail, imaginative features, and attributes that have multi-sensory appeal. Accomplished teachers understand the many ways aesthetic responses vary in relation to the cultural context of the viewer and other factors.

Teachers Understand Theories and Philosophies of Art

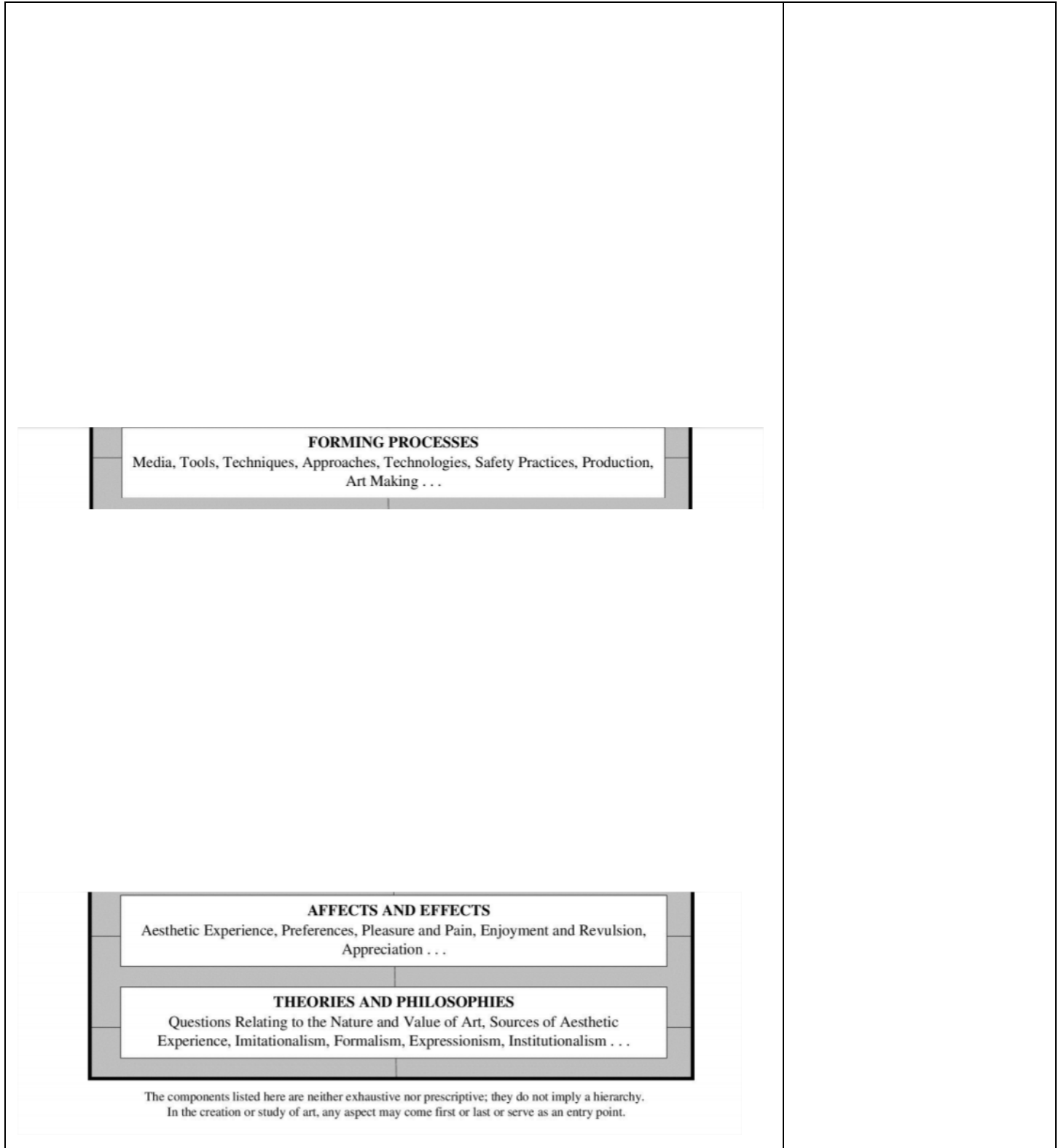
Accomplished teachers know that aesthetics is the study and formulation of ideas about art. They understand that art is an excellent medium for the discussion of philosophical and ethical issues from a wide range of perspectives and viewpoints. They are aware that theories about art and the ways art is perceived and valued by different people vary greatly, constantly evolving as the world of art changes. They understand that through aesthetic theories and philosophies of art, such as imitationalism, expressionism, formalism, instrumentalism, and institutionalism, relevant questions are posed: What objects and events might reasonably be classified as works of art? What are aesthetic and artistic values? How are these values determined and by whom? What other values affect them? What are sources of aesthetic experiences? How do these differ from ordinary experiences? Is an artist's intention important to interpretation? How do issues of ugliness and beauty affect or impact works of art? Did the artist's knowledge of the potential audience for a work

influence its form, function, or aesthetic dimensions? Do fine arts, folk arts, and crafts differ? Accomplished teachers understand how such questions engage students in the exploration of a wide range of theories and philosophies of art.

Teachers Understand How and Why Works of Art Are Made

Teachers know that dimensions of art learning overlap and are intertwined; art teachers are adept at responding to, perceiving, interpreting, evaluating, and creating art. Although any one of these skills could be studied or taught in isolation, accomplished teachers know how the study, interpretation, and judgment of works of art are enriched and deepened when integrated approaches are taken. To prevent the fragmentation that might occur when examining individual characteristics of works of art, teachers focus on the attributes and complexity of the whole. They know that art making is the expression of ideas, qualities, and emotions through the vehicles of forms and forming processes. They know that artists express their visions and perspectives through different art media, modes, styles, and forms. They understand the multifaceted interplay of these components and strive to develop increased facility in studying and making art. They know that interpretive processes are affected by a wide variety of factors, such as the specifics of culture, the formal or expressive qualities of a given work, and the aesthetic criteria applied to a work. Accomplished teachers exhibit general and content-specific knowledge and skills in art making, art criticism, art history, and aesthetics. They have a solid grounding in the forms, theories, philosophies, forming processes, and contexts of art. Fundamentally, they know how to study, interpret, and evaluate works of art; know how and why works of art are created; know how to organize and teach the content of art; and, particularly, know their students and the students' developmental needs. (See Standard V— Curriculum and Instruction and Standard II—Knowledge of Students as Learners.)

Figure 1 on following page...



The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Early Adolescence through Young Adult Art Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EAYA-ART.pdf>

Reprinted with permission from the National Board for Professional Teaching Standards.
All rights reserved.

ART (EMC) <i>Early and Middle Childhood</i>	NOTES
STANDARD IV: Content of Art	
OVERVIEW: Accomplished art teachers demonstrate a comprehensive understanding of the essential knowledge, concepts, skills, and processes that compose the content of art.	
<p>Accomplished art teachers have a thorough knowledge of the discipline of the visual arts that extends to the perception, production, study, interpretation, and judgment of works of art and design made by artists and designers from various cultures, historical periods, and locations. Teachers know and understand various art forms and their complex attributes, origins, contents, and contexts. Teachers know that the creation and study of art are inextricably intertwined. They fully understand the unique language of the domain and the way visual images and forms communicate meaning.</p> <p>Teachers Understand How and Why Works of Art Are Made</p> <p>Accomplished teachers know that creating tangible works in the visual arts involves the interrelated acts of perceiving, thinking, feeling, imagining, and doing. They understand how to support students in creating and studying works of art. They know that some works are created for aesthetic enjoyment or display; that others have significant roles or functions in everyday life for events such as ceremonies, rituals, or special occasions; and that others are designed to fulfill a specific function for a particular audience or groups of “users.” Regardless of the reasons works are created or designed, they reflect the contexts in which they were conceived. Artists and designers symbolize, abstract, condense, and transform the ideas and realities of their worlds through various types of art media, thereby communicating messages from their own unique points of view.</p> <p>Teachers are knowledgeable about the world of art—traditional, popular, and contemporary. Accomplished teachers understand that people create to fulfill their need for self-expression. Through endeavors with various media and art forms, teachers know how works of art represent dreams, aspirations, thoughts, symbols, or ideas; function in ceremonies and rituals; and depict, decorate, and beautify shelter, clothing, and tools. Forms that function differently in various societies may be classified either as art or artifact, depending on the audience making the judgment. Accomplished teachers know that art links people through universal experiences that transcend culture, time, and place. Teachers further understand that the study of art is a meaningful, fulfilling, lifelong endeavor. They know that experience in the visual arts contributes to and influences the development of personal belief systems and worldviews that meaningfully connect diverse peoples among global communities.</p>	

Teachers Have a Command of the Content of Art

Accomplished teachers have a command of the content of art. They value a comprehensive approach to art education through the integration of art making, art criticism, art history, and aesthetics. They combine a breadth of general content knowledge with in-depth knowledge in at least one area of expertise. They have strong art-making skills; they understand and can articulate the qualities and techniques used in creating works in a variety of media, styles, and forms. They have a thorough understanding of artistic processes, such as gathering information; developing ideas or concepts; exploring options; planning, developing, and refining ideas; selecting and using art media and processes safely, effectively, and with technical proficiency; and evaluating or critiquing a finished product. They know that through creative processes, artists and designers exercise intuition, emotion, reasoning, critical judgment, cognition, and physical skills to create works that reflect their unique circumstances. Accomplished teachers can communicate their own ideas, feelings, and beliefs by creating works of art in a range of media, styles, and forms. They can articulate the creative processes that they use and the significance of the content of their artwork. Orally or in writing, accomplished teachers can make informed analyses, interpretations, and judgments about diverse works of art, including their own, those of their peers, and those of other artists. Teachers know and understand the critical role that discussion plays in learning about, studying, and creating works of art.

Teachers understand the influence of technology on the field of visual arts throughout history. They understand the impact of technologies on the development of traditional and contemporary art media. They recognize the powerful role of computer technology, computer graphics, computer software, digital cameras, CDROMs, and the Internet in contemporary society and understand the educational and artistic implications of these resources for the twenty-first century. Teachers know that new and emerging media can extend work of art into multiple dimensions that emulate visual, spatial, and temporal qualities simultaneously. Accomplished teachers understand how the digital capabilities of recording and demonstrating sight, sound, and movement over time exceed the limitations of traditional media and offer new possibilities in the creation and teaching of art.

Teachers know that works of art are highly complex in their intrinsic content, in the context of their creation, and in the changing contexts that surround their study, interpretation, and evaluation. Teachers know that art is made for many reasons and in various ways. They understand that making art involves imagination and invention and the interrelationship of a variety of factors, including form, idea, subject, style, composition, and medium. They are also aware that art has served a variety of functions for different people in various times and places and that art can be found in a variety of human contexts such as homes, public spaces outdoors, museums, galleries, schools, libraries, and corporate offices. Teachers know that the study of art as a basic means of communication gives insight into human cultures and can lead to better understanding of human experience. They understand that art is an excellent medium for the discussion of philosophical and ethical issues from a wide range of perspectives and viewpoints.

Teachers Understand the Complex Attributes of Works of Art

Teachers know that works of art are classified by a wide range of traditional and contemporary forms or types that can be categorized as fine, folk, decorative, and/ or functional. These categories include, but are not limited to, painting, drawing, printmaking, sculpture, photography, fiber arts, environmental design, video, ceramics, collage, fashion design, conceptual or performance art, and computer-generated images. Teachers know that art is produced by means of forming processes—the use of media, tools, and techniques. They know that when expressive qualities are communicated through forming processes, art forms result.

Accomplished teachers know how works of art convey various expressive qualities, which are influenced by the ways that elements of line, mass, shape, color, and texture are presented. They understand that these elements are arranged to convey meanings or evoke a range of feelings and responses. They know that throughout the creative process, an expressive dialogue occurs between the maker and the medium, synthesizing intuitive, analytic, and cognitive skills. The expressive qualities of the finished product evoke various reactions by the artist and other viewers. The elements and principles of design (sensory and formal properties) are sometimes described as the “language” of art; the elements serve as the visual pieces, symbols, or structural components (e.g., color, line, shape, value, texture), whereas the principles—the organizational components (e.g., pattern, balance, repetition, emphasis, unity)— guide how some artists arrange the expressive features into a structural whole or a composition in order to create certain effects with media. Accomplished teachers know that these elements and principles of art are characteristic of Western tradition and represent only one way to study and create works of art. They understand that to apply these concepts to work outside the Western tradition could be a violation of cultural aesthetics, values, and beliefs. Teachers also know that elements and principles of design should not be confused with other types of design within the general realm of visual arts such as graphic design, architecture, video-graphics, set design, and fashion design—creative areas in which function and audience are considered along with aesthetic qualities.

Works of art also have ideational aspects or content, which are messages that communicate universal themes or ideas as varied as the journey of life, imaginary worlds, rites of passage, visions of utopia, the triumph of good over evil, the relationship of humans to nature, and spiritual values. The content of the work of art communicates the artist’s intention. Teachers know that works of art might encompass aspects of the real or imaginary lives of artists, depicted through images stemming from their cultural backgrounds. Works of art can also reflect the subjective perspectives of the artist or events and entities external to the art maker. Teachers know that although the subject matter of works of art may be representational, it can also be metaphoric or symbolic, characterizing and illuminating one event by referring to another. They know that visual, spatial, and temporal factors influence the way artists communicate meaning and evoke feelings, moods, and ideas through their works. Accomplished teachers know how these factors interact within works of art.

Teachers know that context relates to the creation of an artwork in a particular culture, time, and place to fulfill particular societal and aesthetic roles, functions, and purposes. Some works of art are accompanied by little or no evidence of their origins, whereas others have elaborate written histories explaining events that affected their creation and their influence on subsequent works of art. Teachers understand the various ways that artists and media are affected by context. They recognize that works of art are commonly classified by style, function, and genre—classifications that depend largely on contextual factors. They understand the complex interrelationships of the context of the artist with the context in which the art was made, the context of the viewer, and the context in which the work is viewed and studied. Accomplished teachers know that studying art or artifacts out of context can result in misinterpretation, inaccurate characterizations, and assignment of meanings, roles, and functions that might not have been intended.

Teachers understand that interpretation gives meaning to works of art and can be conducted through a variety of processes, including description of characteristics of the works and the contexts in which they were created. Teachers understand that interpretations are informed hypotheses about meaning or intent based on thorough observation of the attributes of a work of art. They know that interpretations can be enriched by the study of the writings of historians, aestheticians, and critics. Interpretations integrate the expressive qualities of a work with a consideration of how the hypothetical meaning or message is related to the events or circumstances in which the work was created.

Teachers know that artwork can profoundly affect or influence human experiences in a variety of ways. The resulting effects range from heightened pleasure to pain, enjoyment to revulsion, excitement to calmness. Both pleasing and disturbing aesthetic experiences can result when individuals appreciate and understand works of art. Viewers are affected by the effects found in a work of art through aesthetic perception, a combination of knowledge about a work and sensory and emotional reactions to the work. Aesthetic perception responds to the subtleties of detail, imaginative features, and attributes that appeal to viewers in a multisensory manner. Accomplished teachers understand the many ways aesthetic responses vary in relation to the cultural context of the viewer and other factors.

Finally, accomplished teachers know that aesthetics is the study and formulation of ideas about art. They are aware that theories about art and the ways art is perceived and valued by different people vary greatly, constantly evolving as the world of art changes. They understand that through aesthetic theories and philosophies of art such as imitationalism, expressionism, formalism, instrumentalism, and institutionalism, relevant questions are posed: What objects and events might reasonably be classified as works of art? What are aesthetic and artistic values? How are these values determined and by whom? What are sources of aesthetic experiences? Is an artist's intention important to interpretation? Did the artist's knowledge of the potential audience for a work affect its form, function, or aesthetic dimensions? Do fine arts, folk arts, and crafts differ?

Teachers know that elements of art learning and accomplished teaching overlap and are intertwined; art teachers are adept at perceiving, interpreting, responding to, evaluating, and creating art. Although any one of these skills could be studied or taught in isolation, accomplished teachers know how the study, interpretation, and judgment of works of art are enriched and deepened when integrated approaches are taken. To prevent the fragmentation that might occur when examining individual characteristics of works of art, teachers focus on the attributes and complexity of the whole. They know that interpretive processes are affected by a wide variety of factors such as the specifics of culture, the formal or expressive qualities of a given work, and the aesthetic criteria applied to a work. Accomplished teachers exhibit general and content-specific knowledge and skills in art making, art criticism, art history, and aesthetics. They have a solid grounding in the forms, theories, philosophies, forming processes, and contexts of art. Fundamentally, they know how to study, interpret, and evaluate works of art; know how and why works of art are created; know how to organize and teach the content of art; and, particularly, know their students and the students' developmental needs. (See Standard V—Curriculum and Instruction and Standard II—Knowledge of Students as Learners.)

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Early and Middle Childhood Art Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EMC-ART.pdf>

<p>CAREER AND TECHNICAL EDUCATION (ECYA) <i>Early Childhood through Young Adulthood</i></p>	<p>NOTES</p>
<p>STANDARD III: Knowledge of Content</p>	
<p>OVERVIEW: Accomplished teachers utilize their technical and professional knowledge as well as their interdisciplinary and pedagogical skills to develop curricular objectives, design instruction, promote student learning, and facilitate student success within industry.</p>	
<p>Accomplished career and technical education (CTE) teachers are experts in their professional fields and proficient within their career pathways, or specialty areas. They continually refine their technical knowledge and skills, ensuring that their practice is aligned with current industry standards, trends, and technologies. They stay abreast of the latest findings and comply with work policies and regulations by maintaining professional ties within their industry. CTE teachers also develop and extend their expertise beyond technical content to include relevant subject matter knowledge and transferable skills like problem solving and teamwork. Accomplished CTE instructors draw on a wide range of subject areas and skill sets. As career professionals, CTE educators utilize transferable skills to function in the workplace while relying on cross-disciplinary and industry-specific knowledge to complete project tasks. As academic teachers, they understand which subject areas and skills to target during instruction and how combined content should be imparted so students can gain the practical knowledge they need to succeed in higher education and the world of work. In this sense, pedagogical awareness constitutes an interrelated body of knowledge in itself, the byword of the accomplished CTE teacher being “integration,” at all times, in all guises.</p> <p>Accomplished CTE instructors are reflective educators and lifelong learners who continually improve their practice. They create dynamic learning environments that help students gain a comprehensive view of their professional fields and career pathways. To foster student learning, CTE teachers design engaging performance-based activities that utilize a variety of strategies, methods, and resources to promote students’ conceptual and experiential understanding of content knowledge. Teachers encourage students to assess situations holistically instead of focusing on tasks in isolation. They show students the value of timely reflection to evaluate pros and cons and determine task feasibility before investing energy and effort in a specific approach. For example, an information technology teacher may group students so that some begin developing a web page using web authoring programs, while others work with scripting language; by comparing the groups’ progress on the assignment, students could assess which web design platforms provide the best capabilities to create effective websites within a specific context. CTE instructors teach their students to think critically and analytically while using relevant technology, so students can tackle problems and persevere when solutions do not come quickly or easily. Accomplished teachers challenge their students to use facts</p>	

Reprinted with permission from the National Board for Professional Teaching Standards. All rights reserved.

wisely, reevaluate their situations constantly, and think creatively to design innovative strategies for completing their work.

Whenever possible, accomplished CTE teachers emphasize the importance of developing employability, or transferable, skills to achieve performance-based results that align with industry needs. Teachers engage students at their current level of development and help students grow further as individuals. They encourage students to take risks and reflect on success as well as failure, so students can adjust their approach based on experience. CTE instructors show their students how to communicate with other people—to interact with them ethically and professionally, knowing how and when to lead and follow—so students can be productive whether they work alone or collaborate in teams. Teachers stress the importance of foundational skills, such as how to budget and manage money or how to plan and schedule time. For example, a sewing instructor may have students create marketing, production, and sales plans before using digitizing software to design and embroider sports towels with team logos for fans and supporters. Aware that the world today is much more interconnected than ever before, CTE instructors show their students they are global citizens, living, studying, and working in diverse communities, subject to the demands of a transnational economy. In various manners and contexts, CTE teachers provide the students in their courses with tools and strategies as well as facts and figures, with workplace readiness in addition to technical knowledge.

To design authentic challenges that enhance student learning, accomplished CTE teachers simulate real-world experience. Teachers integrate multidisciplinary demands into job tasks; within assignments, they incorporate appropriate workplace scenarios, such as tight deadlines, customer feedback, and emerging project requirements. For example, an engineering teacher preparing a team for a robotics competition may require students to manage the logistical details leading up to the event, such as budget and project planning, purchasing, communication protocols, implementation strategies, and transportation. Similarly, a family and consumer science instructor who teaches culinary arts may have his students design a banquet for the school board and organize the event by planning the menu based on a budget, purchasing supplies and setting up the facility, preparing and serving food, and cleaning the facility at the end of the night. CTE teachers ask students to coordinate the demands of invention and production so they can understand all aspects of professional activity. Instructors encourage their students to practice their employability, cross-disciplinary, and industry-specific skills in a “hands on” manner by participating in business opportunities organized within classrooms and labs and undertaken through internships and externships.

Cross-Disciplinary Knowledge

Within their professional fields, accomplished CTE teachers utilize bodies of knowledge from English language arts, history and social studies, mathematics, and science. Skilled at the application of these disciplines, they are capable of reading theoretical documents related to their fields as well as technical manuals based on these documents. CTE instructors draw on this cross-disciplinary knowledge when

teaching subject matter central to their career fields and areas of expertise. For example, an automotive technology teacher may review the mathematics and physics concepts underlying the successful completion of a brake repair job, a carpentry teacher may analyze the geometric principles guiding the design and construction of roofing systems, and a performing arts teacher may discuss the subtle appreciation of language and literature needed to deliver dramatic monologues. CTE teachers instill the importance of learning by showing students the relationship between the general academic content presented in core classes and the applied technical knowledge taught in CTE courses.

Accomplished CTE instructors integrate academic subjects meaningfully into their CTE content to support the broader learning needs of their students. They provide students with opportunities to build skills in different disciplines through applied instruction, helping them appreciate the relevance of middle and high school curricula and the significance of mastering key concepts. CTE teachers nurture their students' skills by building on prior learning and working with instructors in other departments to develop interdisciplinary projects.

English Language Arts

Accomplished CTE teachers understand that mastery of English language arts is critical to success in postsecondary education and employment. They know the influence and impact that this subject area has across curricula, and they incorporate reading, writing, speaking, and listening tasks meaningfully into CTE learning environments to demonstrate their significance in higher education and the world of work. While reviewing industry-based documents, CTE teachers cultivate their students' reading skills, fostering their ability to interpret texts carefully and critically. As students produce their own documents during project-based activities, teachers develop their writing skills as well, strengthening their students' ability to communicate clearly and persuasively. For example, a multimedia instructor may have students compare and contrast the information in technical manuals while troubleshooting compatibility issues and drawing conclusions about system requirements; a health services teacher may ask students to write succinct descriptions of patient symptoms and vital signs for medical records that physicians will review; and a horticulture instructor may have students create plant descriptions that cite botanical classifications while providing care instructions easily understood by the average consumer. Accomplished CTE teachers reinforce their students' reading and writing ability throughout learning activities related to their fields of expertise.

To advance their students' speaking and listening proficiency in the workplace, accomplished CTE instructors develop their oral and auditory skills in one-on-one conversations, group discussions, and formal presentations. For instance, a business, marketing, and financial services teacher may ask students to converse with professionals while preparing for job interviews so students can practice exchanging ideas through questions and answers, gain experience articulating current issues in their field, and work on expressing themselves concisely in a career setting. Similarly, in preparation for a stage performance, a theatre teacher may have students analyze a

recorded monologue so they can critique the performer's enunciation and vocal characterization. CTE instructors demonstrate the important role that interpretive techniques, rhetorical strategies, grammatical conventions, and professional etiquette play in a range of situations. They show students how to utilize inferential reasoning, evaluate purpose and audience, and modulate voice and tone to construct meaning and communicate ideas effectively and appropriately in the workplace. CTE teachers address these issues in a variety of professional contexts, helping students consider how and when their approaches might change to satisfy the shifting cultural customs and expectations of an increasingly transnational business world.

Accomplished CTE teachers incorporate every communication skill in project tasks that require students to construct sound arguments using persuasive, industry-appropriate evidence. For example, a construction technology teacher may have students research sustainable design materials so they can prepare written reports about building processes, gather helpful visual aids, and deliver oral presentations pitching their projects to a prospective client. Likewise, a theatre instructor may have students study past productions of William Shakespeare's *Romeo and Juliet* as they adapt the literary work and stage a modern interpretation of the play; or a biotechnology teacher may have students organize a professional conference, prepare position papers, and participate in a series of debates focusing on ethical issues in industrial settings. In work-based activities like these, CTE instructors emphasize the importance of conducting thorough research, citing sources accurately, and utilizing critical thinking to demonstrate professional competence while achieving project goals. They teach students the difference between well-supported views and unsubstantiated assertions and show them the professional implications of advancing one versus the other. In their classrooms and labs, CTE teachers focus on the practical application of English language arts to advance professional goals and business initiatives.

History and Social Studies

In their classrooms and labs, accomplished CTE teachers engage concepts related to history and social studies within the context of career and technical knowledge. Teachers address ideas and movements related to their field of expertise through a number of lenses, examining cultural relevance, historical impact, social implications, economic repercussions, and civic ramifications. They ground their discussion of these topics by considering the perspectives of professionals working within industry and citizens contributing to local, national, and international communities within a global marketplace. For example, a computer science teacher may discuss how market demands and labor costs within the software industry have evolved and follow up by having students investigate the economic outlook for different sectors so they can develop a deeper understanding of the trends within this career area. Likewise, an engineering teacher may discuss the rise of factories and the related shift from agrarian to industrial economies while teaching students about the impact that their innovations and inventions can have on society. Finally, a marketing instructor may discuss the political climate and cultural mores of developing countries with her students while they run a cost benefit analysis to ascertain the risks and advantages of adopting various workforce strategies to maximize the economic performance of an

entrepreneurial venture. CTE instructors show students how they can use an appreciation of history and social studies to inform their professional practice, build cultural competence, and make sense of a changing world.

Accomplished CTE teachers discuss themes and issues related to political science, sociology, and psychology as well to provide their students with a framework for understanding the interactions of individuals within communities, whether formed within a work organization or a geographical region. Informed by an understanding of civic process and public discourse, teachers establish learning environments that model democratic rights, responsibilities, and values; contribute to students' appreciation of, and respect for, diverse viewpoints; and encourage the growth of leadership skills and abilities. For instance, a CTE teacher may take his students to the state capitol to meet with legislators and advocate for their program so students can learn more about democratic participation and purposeful debate. CTE classrooms encourage active social involvement and fair play, as well as justice and due process. Teachers furthermore show their students that people in a democratic society have the right to disagree, that multiple perspectives should be taken into account when reaching group decisions, and that judgment should be based on evidence rather than bias or emotion. Accomplished CTE teachers help their students become productive members of society, making sure they understand how professionals in their fields can and should interact effectively with government agencies so they can meet local, state, and federal laws and requirements.

Mathematics

The signs and symbols of mathematical disciplines constitute a universal language allowing people from diverse lands and regions to communicate ideas, advance industries, and build economies together. Accomplished CTE teachers understand various aspects of mathematics as they relate to their professional fields. These areas may include number systems, algebra, geometry, statistics, probability, discrete mathematics, calculus, or other fields. Applied mathematics represents a major component of most specialty areas, from using statistical analyses to predict the success of a small business to calculating the current in microcircuits in the latest communication device or interpreting graphical analyses of rainfall patterns in pristine natural forests. CTE teachers show their students how mathematics can help them reason analytically and think strategically while solving problems in workplaces around the globe.

Accomplished CTE teachers help students develop their mathematical skills in context. For instance, culinary arts students might divide fractions and multiply decimals to convert measurements and alter the portion yield of a recipe. Or business students might rely on accounting principles while creating budgets and logging expenditures. CTE instructors review essential mathematical operations with students as they analyze technical questions and communicate outcomes to constituents. Teachers help their students think mathematically when they approach situations, study and explore patterns, formulate problems, and develop reasoning that is logical and systematic. Educators show their students how to use mathematical knowledge to

solve a wide range of practical problems—to move beyond simple calculations and develop critical thinking strategies based on concepts such as algebraic logic or decision matrices. For example, a culinary arts teacher might create a formula with students to determine how many cookies will fit into a gift box based on the volume of the rectangular box and the cylindrical shape of the cookie. Similarly, a health science instructor might work with students to ensure they understand the significance of, and relationship between, variables used in formulas to calculate medication dosages. Finally, an agribusiness teacher may have students use decision matrices to weigh criteria and make objective choices about resource priorities for a farm management project. Accomplished CTE teachers have students explain their mathematical reasoning in oral and written forms as well as graphical representation so students gain a better understanding of their thought processes and strengthen their critical thinking. By learning how to explain and communicate their conclusions, the students of accomplished teachers acquire the ability to extend their reasoning and relate their conclusions to the understanding and solution of other problems. CTE instructors provide their students with the experience they need to use mathematics comprehensively, as a tool within industry and a means of managing simple and complex economic situations.

Science

Like mathematics, science is a subject area that connects people developing ideas and designing products in different countries and cultures. Accomplished CTE teachers understand scientific principles and methods that are directly related to their areas of expertise and appreciate the way these concepts unite them with professionals working within a transnational economy. As applicable, CTE instructors integrate core concepts from the life and physical sciences into their fields of study, making science meaningful to their students by showing them its significance in real-world situations. When working with the life sciences, teachers know about and address topics such as the structure and function of cells, the diversity and unity that define life, the physical constitution of living organisms and the function of their parts, the genetic basis for the transfer of biological characteristics, the life cycle, the dependence of organisms on one another and their environment, the flow of matter and energy through the environment, and the evolution of species. Importantly, instructors explore these topics within their professional contexts. For instance, a dance teacher might discuss human anatomy while explaining the techniques his students should employ to reduce the risk of physical injury. A family and consumer science instructor who teaches child development may describe cognitive brain development to illustrate the rationale for adopting an instructional strategy. Or a health services teacher working with students to assess a patient experiencing an allergic reaction to medication might use the scientific method while analyzing the medication's effect on various body systems. In this final example, as in many other instances in the CTE learning environment, the teacher combines knowledge of a scientific practice with understanding of scientific content to answer questions typically encountered in the workplace. When working with the physical sciences, accomplished CTE teachers know about and address topics such as the properties of matter and the forces governing its interactions; the forms of energy, its transformations, and its relationship

to matter; and the principles of kinetics and motion. They also discuss relevant concepts from the earth and space sciences, which include the origin, composition, and structure of the universe; the uniformity of all materials and forces; the motions of the Earth and the systems that compose it; the processes that shape the Earth's surfaces; and the relation of these cycling processes to the environment. Here, for instance, an automotive teacher speaking with students about patterns of wear and tear on brakes might discuss how road factors and driving characteristics exert force on the pads over time. In all these examples, CTE teachers use scientific principles as tools for analyzing technical issues and problems.

Based on their knowledge of scientific methodology and inquiry-based instruction, accomplished CTE teachers create opportunities for students to develop problem-solving strategies while thinking, acting, and communicating their findings as scientists. Teachers have their students research, organize, and evaluate information in projects that contextualize this process within the world of work. For example, a criminal justice instructor may have students research the chemical reactions that take place when luminol interacts with proteins in order to determine why these proteins are visible when viewed under an ultraviolet light, why this interaction would be relevant within an investigatory context, and how it should influence the techniques they use to gather and interpret evidence. Accomplished CTE teachers make connections between science and their technical fields exciting for students, encouraging them to develop an appreciation for scientific disciplines and a respect for empirical evidence while working through problems that challenge their creativity and imagination and invite them to compare their hypotheses with those of others. For instance, a civil engineering teacher may help students answer their own questions about bridge design by having the class test the weight capacity of trusses selected by different project teams using real-time stress point data from a computer simulation. To help students explore the relationships between science, technology, engineering, and mathematics—and the ways they shape the world we live in—CTE teachers adopt multidisciplinary approaches in projects driven by inquiry-based learning, hypothesizing, experimentation, and data analysis. The students of accomplished CTE teachers plan projects, ask questions, make observations, interpret data, draw conclusions, and develop solutions. Throughout these activities, they feed their curiosity about the world and apply their knowledge of scientific methods and concepts within their professional fields of interest.

Industry-Specific Knowledge

The knowledge base and the teaching practice of accomplished CTE teachers share a number of similarities across career pathways, or specialty areas. Teachers take an interdisciplinary approach to career and technical instruction, introducing students to techniques and methodologies informed by an appreciation of different disciplines and grounded within a current understanding of industry-based skills, trends, and performance standards. CTE instructors develop challenging projects that emphasize the importance of problem-solving and help students acquire transferable skills to increase their employability. Importantly, educators encourage students to extend the experience they gain through applied learning by pursuing internships and other

work-based positions and by earning industry certifications. Helping students achieve success in a rapidly changing job market is the goal shared by all accomplished CTE teachers.

While the technical knowledge that accomplished CTE teachers have varies widely according to their specialty area and field of expertise, there are common themes cutting across career pathways. Topics like marketing and entrepreneurship may be based primarily in Business, Marketing, and Financial Services, but they are relevant to other specialty areas as well, such as Leisure and Recreation Services or Transportation Systems and Services. Similarly, tools like computer-aided design (CAD) software and other forms of technology initially developed for career fields in Engineering, Design, and Fabrication are also used by professionals working within Community Services; Decorative Arts and Design; Information Systems and Technology, Communications, and the Arts; and Natural Resources. Accomplished teachers understand the connections that exist between their knowledge and skill sets as well as the ways their specialty areas relate to other areas within career and technical education. The industry-specific descriptions that follow thus outline distinct bodies of knowledge related by similar professional contexts.

Business, Marketing, and Financial Services

Accomplished CTE teachers in this broad specialty area focus on education for, and about, business. The academic and occupational content of this career cluster addresses **business, management, and administration; finance; and marketing, sales, and services**, which are further divided into a number of professional fields. These are accounting, banking, business information management, business law, business technology, communications, economics, e-commerce, entrepreneurship, human resource management, international business, merchandising, personal finance, project management, and sports marketing. The subject matter knowledge of CTE teachers can therefore vary widely within this pathway. It may relate to one or more fields in one or more different industries and may be further specialized according to factors such as business type (sole proprietorship, partnership, or corporation), setting (brick and mortar, online, or hybrid), or sector (private or public).

Today's rapidly changing marketplace requires professionals in all fields to understand the latest tools and methods for handling business functions, such as current management models and modes of virtual communication. Accomplished CTE teachers working within the domain of **business, management, and administration** appreciate the vital importance of selecting the best solutions for a specific situation and implementing them with skill and insight. Teachers introduce their students to the qualities and characteristics of business systems and methodologies that will help students achieve success in high performing workplaces. At the management level, instructors have a thorough understanding of supervisory functions, project management, strategic planning, and employee training and development. They also have detailed knowledge about processes related to office management, such as the coordination of meetings, travel, and mailings. In terms of business technology, accomplished CTE teachers are adept in a range of business communication and

computer applications used for word processing, data management, virtual communication, and oral presentations. Some teachers in this career cluster may also specialize in website development, multimedia design and publishing, gaming, animation, and programming. All instructors in this domain are acquainted with business law as it affects their field of expertise and understand current guidelines governing the operation, ethical practices, and regulatory agencies involved in small business management.

In the realm of **finance**, accomplished CTE teachers instruct students in general accounting functions, payroll and personnel records, and inventory systems. Teachers also have a broad understanding of concepts related to personal finance, including taxation, budgeting, banking services, and financial planning. Accomplished CTE teachers use their knowledge to foster the financial literacy of their students and guide them toward careers in this domain. Work within the field frequently relates to work performed in other specialty areas due to its broad relevance.

Accomplished CTE instructors specializing in **marketing, sales, and services** teach principles and methods applicable to a variety of professional fields, including those outside the area of Business, Marketing, and Financial Services. Knowledge within this domain relates to the sale of goods and services based on product value and customer need, which entails identifying and developing products, establishing their price, determining suitable distribution channels, and implementing promotional strategies. Topics of interest thus include purchasing, pricing, promotion, marketing information management and research, product and service planning, distribution, financing, e-commerce, entrepreneurship, warehousing, distribution, and risk management. These concepts are pertinent in career fields as diverse as advertising, merchandising, financial services, travel and tourism, food marketing, hospitality services, and sports marketing. Small business owners in all sectors of the marketplace benefit from strong entrepreneurial skills, which include an understanding and appreciation of risk, profit, independence, sacrifice, and leadership, as well as technical knowledge and ability in marketing research and feasibility studies, business plan development, financial securement, and small business operations. Accomplished instructors teach these concepts through scenarios that require students to integrate them in practice. For example, a marketing teacher might work with students to conduct a needs analysis for consigning pre-owned prom dresses and then develop a marketing campaign to advertise and sell the service. CTE teachers in the specialty area of Business, Marketing, and Financial Services instruct their students in all aspects of starting, owning, and managing a business.

Community Services

Accomplished CTE teachers in Community Services instruct students in **government services, health services, human services, and law and public safety**. Educators working with young adolescents educate them in the use of public resources and the development of social processes to promote the safety and well-being of individuals and families across all communities. Teachers working with older adolescents extend these lessons, preparing students for the challenge of managing work and family roles

as they meet social responsibilities. Teachers also train students to attain professional positions in agencies and organizations that sustain communities.

Government services comprise the planning and implementation of public administration activities on a local, state and national level, while **law and public safety** addresses law enforcement, correctional services, and fire science. Education in these domains positions students for careers in governance, national security, and military science, as well as homeland security, criminal justice, legal services, and fire management, among others. Like their colleagues employed in these areas, accomplished teachers are motivated to perform public service work based on their desire to serve. The altruistic nature of **government services** and **law and public safety** is embedded within the instruction of CTE teachers, who always connect their instructional content to the well-being of others. For example, a public safety instructor may begin a unit on crisis management by having students research current theories, explore planning resources, and meet with local fire and law enforcement officers; students working in teams might then develop a crisis response plan for a local shopping mall and deliver presentations explaining how their plans would protect the public. Knowledge and skills essential to these areas relate to legal structures and processes, organizational management, and communication with the public. Accomplished CTE teachers working in these domains possess a basic understanding of local, state, and national laws, in addition to public administration policies and regulations, human psychology, and crisis management, based on their specialization.

Health services encompasses diagnostic, therapeutic, and medical laboratory services, as well as nursing, health informatics, and health care administration and management. Accomplished CTE instructors working in this domain possess general medical knowledge related to such topics as anatomy and physiology, laboratory procedures, biohazardous waste disposal, and medical documentation. Teachers convey technical understanding of bodily structures and functions, diagnostic methods and procedures, and proper patient care. Possessing specialized knowledge based on their field of expertise, they introduce, model, and provide their students with opportunities to practice techniques in cardiopulmonary resuscitation, first aid, vital sign monitoring, phlebotomy, radiology, electrocardiography, and other areas. Instructors also help students develop skills in the management of health care systems, such as medical transcription and coding. CTE teachers have a strong understanding of the legal, ethical, and safety guidelines governing their professional practice. Well versed in risk management, they avoid medical mishaps while dealing efficiently with accidents that may occur, like radiation exposure or needle sticks. Educators typically have substantial experience in hospitals, clinics, or urgent care facilities and retain state credentials in their fields. When sharing their knowledge with students, teachers make sure their students gain professional insight on the history of health care, emerging trends, and new career avenues. The experience that students gain in this domain assists them in the pursuit of careers as medical assistants and technicians, nurses, physical therapists, and athletic trainers, among others.

The domain of **human services** includes a wide range of career fields: child and family services, counseling and mental health, consumer services, food and nutrition, cosmetology, interpretation, and teacher training. Accomplished CTE instructors working in child and family services and in counseling and mental health have a strong background in psychology. They educate students about the physical, social, intellectual, and emotional characteristics of human development and the ways these traits inform the personal needs and priorities of individuals at various stages of their lives. Teachers also address the effect that cultural values and beliefs have on personal and social interactions. They show students how to relate to, and learn from, people of differing ages so students can develop the skills and tools they need to support individuals experiencing difficulty and help them and their families work through challenges and crises. Educators explain the use of stress management and coping skills as well as other solutions to resolve interpersonal conflict. They help students develop problem-solving and decision-making skills to improve the quality of individual and family life and teach students assessment and intervention strategies to assist children and families at risk. CTE teachers introduce their students to the complex network of services available from evaluation to implementation and show students how to coordinate their services with those of therapists, psychiatrists, guidance counselors, and other professionals throughout the community.

The knowledge of accomplished CTE teachers working in consumer services, food and nutrition, and cosmetology is based in health and economics but varies in relation to their field of expertise. In consumer services, instructors show students how individuals and their families can use resource management to meet their material needs. They also teach students about safety and environmental awareness in relation to consumer products. Teachers emphasize the importance of approaching personal, professional, and family demands in a balanced manner. They help students develop financial literacy and critical thinking skills in addition to creative and interpersonal skills. For example, a teacher may have students in a consumer services class organize toy donations for a school project and give presentations to other students demonstrating the types of toys appropriate for different developmental levels. In this field, students learn how to function effectively as providers and consumers of services and goods, and they learn how to train others to do so as well.

In food and nutrition, accomplished CTE teachers help students apply nutritional concepts to daily living so they can promote wellness and help people lead healthy, active lives. Instructors are well acquainted with the nutritional value of foods as well as dietary guidelines for individuals of different ages and activity levels. They also understand the importance of assessing family economics and providing instruction in food safety and sanitation when implementing nutritional plans. Teachers use this base of knowledge to show students how they can meet the nutritional needs of various individuals. For example, a teacher may have students design a balanced five-day meal plan and counsel family members on food choices and portion sizes before reviewing safe techniques for food preparation. Instructors show their students how to take a comprehensive view of nutrition within the context of different social groups and personal living environments.

Cosmetology is a broad term used to describe beauty services related to the treatment and maintenance of hair, skin, and nails. Accomplished CTE teachers in this field instruct students in hair coloring, cutting, perming, and styling; facials, skin treatments, make-up applications, and hair removal; and manicures, pedicures, and nail design. Instructors help students become stylists and small business owners by teaching them technical skills, developing their appreciation for aesthetic design, providing them with experience in customer relations, and introducing them to marketing and small business techniques.

The knowledge of accomplished CTE teachers working in interpretation and teacher training is based in education and in the language arts but varies in relation to their field of expertise. The global nature of modern life makes the field of language interpretation invaluable to the daily operation of industries across CTE specialty areas. Jobs in this career field are on the rise, and well-trained professionals are consistently in high demand. Interpreters work in spoken or sign language, while translators focus on written language. Both provide services in a wide range of school, home, business, and legal settings. Teachers in this field introduce their students to the linguistic and interpersonal skills they need to pursue further instruction and future employment. Instructors working in teacher training provide their students with a similar introduction to the field. They acquaint students with child development, behavioral management, children's literature, instructional planning, classroom assessment, and classroom management strategies so students can gain an initial understanding of the teaching profession in preparation for additional training and work experience. For example, a teacher might design a work-based learning experience that allows students to enter a series of early childhood classrooms so they can observe the implementation of different instructional methods. Accomplished CTE instructors across the career fields comprising Community Services work diligently to ensure their students gain access to work-based experiences within the learning environment and in relevant, real-world settings.

Decorative Arts and Design

Curricula within the specialty area of Decorative Arts and Design prepare students to pursue careers within **apparel design and clothing construction, ceramics and pottery, floral arrangement, interior design and decorating, jewelry making, and textile design**. Accomplished CTE instructors provide students with the technical and business skill sets they need to obtain employment in major industries or as artisans in cottage industries. Teachers introduce their students to design methods, production practices, and operational procedures that allow them to refine their craft, meet industry standards, and mature as professionals. Educators also help their students acquire the marketing and entrepreneurial skills they need to attract customers and achieve profitability and career success. While many students in this specialty area may obtain employment in commercial settings or be self-employed, others may pursue postsecondary education and find positions as historians, scholars, and curators in cultural institutions such as museums, galleries, and historic houses.

Accomplished CTE instructors who teach students about **apparel design and clothing construction** understand the many factors driving garment production and sales, from industry trends and government regulations to cultural values and consumer demands. Teachers discuss clothing and apparel as economic commodities and objects that satisfy basic physical needs while also fulfilling complex psychological desires through the manipulation of self-image and the projection of social personae. They help students understand how media, family, friends, and acquaintances influence garment choices and thus affect fashion design. Alongside a background in these theoretical issues, educators give their students an understanding of costume history and the aesthetic principles of fashion. They teach students about design elements such as line, shape, space, texture, pattern, balance, and color and how these elements influence our emotional response to clothing. CTE instructors also show students how to manipulate the cut, drape, form, and fit of garments to complement various body types. Students learn about various aspects of the design process by sketching their ideas, revising drawings and annotating them with notes and fabric collages to hone their designs, selecting fabrics based on use and care requirements, creating and working with patterns, constructing garments using hand and machine sewing techniques, embellishing garments, and tailoring articles to make alterations and modify ready-to-wear garments. Instructors advance their students' technological expertise throughout this process by showing them how to use computer-aided design (CAD) software, sewing equipment, and tools, while observing safety protocols. They also have students explore their career options by researching the roles and responsibilities of professionals working in the apparel industry. The students of accomplished CTE teachers develop their technical and business skills through work-based learning opportunities that strengthen their entrepreneurial and marketing skills while helping them build professional portfolios in preparation for postsecondary employment.

In the domain of **ceramics and pottery**, accomplished CTE instructors teach their students about the functional and aesthetic qualities of various clays, slips, engobes, glazes, and washes while showing them various shaping techniques, decorative strategies, and firing methods. Students learn hand-building skills, such as pinching, coiling, molding, extrusion, and slab construction, as well as wheel-thrown construction, including the use of tools to trim and burnish forms. Ensuring adherence to health and safety guidelines, educators teach their students about different kiln settings and firing options as well as how to oxidize finishes and create other effects. Throughout studio work, teachers emphasize the importance of balancing form and function, showing students the significance of shape, texture, color, and pattern to meet specific purposes and convey artistic meaning. Students learn about historic design trends, such as art nouveau or art deco, to gain an appreciation of various cultural perspectives and viewpoints. They also experiment with the expression of their personal vision as they develop their skills and abilities as craft artisans. CTE teachers encourage students to showcase their pieces by building portfolios, selling their work at shows and galleries, and filling orders on a commissioned basis. They provide students with opportunities to collaborate with other artisans so students can form professional networks and establish themselves as working artisans within their communities.

Understanding the historical, cultural, and aesthetic components of floral design, accomplished CTE instructors of **floral arrangement** teach their students about the origin of popular arrangements and the effect that historical periods have had on modern styles. They train students to recognize the distinctions among classical, European, and Oriental arrangements and show them how to work with the design elements that characterize these types of bouquets. Instructors know how to create line, mass, and line-mass designs and teach their students how to produce these arrangements while using primary, secondary, and tertiary colors to complement their overall effect. Educators evaluate scale, proportion, balance, and color usage as students learn the basic design principles of **floral arrangement**. They help students understand floral and foliage classifications as well as the tools and supplies needed to work with fresh, dried, and artificial flowers in fresh and permanent arrangements. Family and consumer science instructors in this domain convey technical knowledge and sound business practices in classroom simulations, student-run businesses, and work-based learning opportunities offered through business and community partners. Educators prepare their students for careers in floral design, whether they work in corporate settings or establish and operate small businesses.

Accomplished CTE teachers offering coursework in the domain of **interior design and decorating** teach their students about architectural styles, furniture designs, and decorating trends, both historical and contemporary. They also promote environmental awareness by acquainting students with sustainable building practices and the principles of green design. As instructors work with students, they teach them about the qualities of, and relationships between, artistic elements that affect interior design, including line, form, space, mass, and texture. Students learn how to create a sense of ambience and evoke a distinctive aesthetic by altering the balance among these elements through the use of color and lighting; the coordination of floor, window, and wall treatments; the selection of fabrics, furnishings, and decorations; and the arrangement of pieces within a room. Importantly, family and consumer science teachers show students the importance of meeting client needs by basing their design choices on the accommodation of individual lifestyles and personal tastes and the observance of economic guidelines and quality standards. CTE instructors also teach their students how to optimize traffic patterns in homes and organize interior spaces for specific uses and functions. To formulate their design ideas and communicate them to clients, students create floor plans and sample boards during work-based projects. Teachers help their students develop portfolios based on these learning opportunities to demonstrate possession of the knowledge, skills, and abilities required for careers in **interior design and decorating**.

Accomplished CTE instructors who teach **jewelry making** work with their students from the design phase through studio fabrication and then product sales. They teach students how to sketch their ideas so they can refine the structure and form of jewelry pieces prior to construction. Demonstrating safe work practices and the responsible use of media and equipment, educators introduce their students to a number of fabrication techniques, including bead stringing, wire bending and wrapping, metal stamping and surface texturing, stone setting, soldering, and riveting. They have

students experiment with different media, such as gems, stones, tiles, metals, and found objects, showing students how the qualities of various materials inspire distinct emotional responses from viewers. CTE teachers analyze jewelry pieces with students, evaluating balance, proportion, color, pattern, and form to improve their students' technical proficiency and aesthetic sensibilities. Educators teach students about historical and cultural trends in **jewelry making** to expand their design influences and help them develop a sense of personal style as craft artisans. Teachers also stress the importance of learning current market trends and meeting customer needs based on the wearers' use of jewelry and occasion for purchasing it. As students collect portfolios of their jewelry creations, instructors encourage them to pursue work-based learning opportunities and become active participants in artisan communities. CTE instructors prepare their students to pursue employment in small and large business environments and teach them the practices and procedures needed to operate small businesses.

Accomplished CTE teachers who provide instruction in **textile design** show students how to create fabric for a range of applications and a variety of markets, from the tailoring of couture clothing to the construction of mass-produced furniture and wallpaper. Instructors are familiar with the weaving and printing techniques used in textile production and teach their students to design and manufacture fabrics using both contemporary and traditional methods and technologies. Educators urge students to experiment with styles and fashions derived from current and historical trends. They have students use different fibers, yarns, dyes, and finishes to gain experience working with color, texture, and print and to practice coordinating these design elements by observing aesthetic principles related to balance, emphasis, rhythm, and proportion. Teachers in this domain encourage their students to create portfolios with their textile creations so they can pursue postsecondary opportunities.

Engineering, Design, and Fabrication

The careers in this specialty area continue to account for a significant portion of the job market because they involve the design, manufacture, and maintenance of a wide range of structures and products. Accomplished CTE instructors in this career pathway prepare students to undertake tasks as diverse as building electronics, repairing roadways, constructing buildings, maintaining and servicing power plants, and designing new products. They introduce their students to new tools and machinery, technologies and materials, processing and feedback controls, and outputs and robotics. Depending on their particular expertise, teachers are knowledgeable about engineering fields, repair techniques, manufacturing processes, transportation systems, energy technology, and environmentally safe integrations. Instructors with a command of the building trades may focus on plumbing, electrical wiring, heating and cooling systems, or carpentry, and they may also have related expertise in architecture, engineering, city planning, housing policies, or construction technology. CTE teachers working within the area of Engineering, Design, and Fabrication cultivate specific skill sets, such as prototyping, metal joining, material science, numerical controls, and safety and quality control. These skill sets fall within five major domains:

architecture and construction, design and development, engineering, manufacturing, and robotics and automation.

All accomplished CTE instructors in this career pathway use scientific and mathematical knowledge as well as industry-mandated skills and performance standards to teach students about the application of emerging technologies. They challenge their students with interdisciplinary projects that require them to devise, troubleshoot, and modify systems using technological tools and processes. For example, a teacher might show students how to employ CAD software to produce virtual representations of cities or homes so students can examine the complexities of construction and test the limitations of their designs prior to investing time, money, and material in building physical prototypes. Teachers emphasize the utility of adapting to the changing design, interface, and maintenance of data systems. For instance, an instructor might introduce her students to multiple numerical systems to train them in the type of computer software design arrangements they can expect when coding and decoding electrical programs. Teachers also stress the importance of adopting efficient project management principles, such as the “just-in-time” model of distributing parts where and when they are needed, thereby reducing storage requirements. Instructors expand student thinking and extend their students’ industry-based skills by teaching them how to adapt tools and techniques to solve practical problems.

To teach students how to design efficient and effective solutions in the workplace, accomplished CTE teachers introduce them to the ongoing development of inputs, processes, and outputs in communication, transportation, manufacturing, and construction systems. In the field of communications, topics include encoding, transmitting, receiving, decoding, storing, and retrieving information. In transportation, they relate to essential tasks such as loading, moving, unloading, and storing goods using multiple media. In the field of manufacturing, changing trends affect ways of locating material resources, extracting them, producing industrial materials, and fabricating products. In construction, they deal with methods of preparing sites and networks for buildings, setting foundations for structures, erecting structures and infrastructures, installing utilities, and establishing maintenance protocols. CTE teachers throughout the area of Engineering, Design, and Fabrication provide their students with an understanding of future trends and current practices to prepare them for the changing demands of the workplace.

Information Systems and Technology, Communications, and the Arts

This specialty area is a vast career cluster. Practitioners specialize in a range of fields, but the purpose of their activities centers on communication. Whether they work in **communications and journalism, fine and performing arts, information systems and technology, or media arts**, professionals in this pathway focus on the storage, retrieval, and conveyance of information and ideas. Accomplished CTE teachers in this area show their students how to use words, sounds, signs, and symbols to create meaning.

Accomplished CTE teachers in **communications and journalism** have a strong background in English language arts and a firm understanding of the creative process as it relates to their field. They show students how to identify messages relevant to the audience and occasion and how to communicate these messages in compelling, informative, and persuasive ways. Instructors develop their students' critical thinking skills while honing their speaking and writing ability, showing them how to create and present columns, features, and other pieces. For example, a journalism teacher might have his students select a current issue and gather information to develop a news story that raises audience awareness; after broadcasting the story to their peers, students could reflect on its impact at the school. Capable of working in audio, video, and print media, educators provide their students with the skills necessary to analyze and investigate topics, interact with people, and discuss current issues. They also teach students about copyright laws as well as the ethical and moral implications of working in **communications and journalism**. Accomplished teachers in this domain prepare students for careers in advertising, broadcasting, desktop publishing, web design, and public relations, in addition to technical and journalistic writing.

The teaching practice of accomplished CTE instructors in the **fine and performing arts** is grounded in the creative and expressive aspects of their work and its ability to communicate ideas and construct meaning. Providing students with instruction in painting, sculpture, music, dance, theatre, film, and photography, teachers understand elements of design and the design process. For both the **fine and performing arts**, accomplished educators know how artists analyze their purpose, research their methods, develop their approaches, select their media, create their products or performances, and evaluate their outcomes. Instructors in the performing arts also have a thorough understanding of production and performance techniques. All instructors in this domain use technology to enhance their practice and show students how to employ technological developments to advance the arts industry. For example, theatre and music instructors may train their students to use sound reinforcement technology to support and improve musical theatre productions. Accomplished teachers work with students to hone their craft as artists while learning the duties and responsibilities of arts professionals, such as observing copyright laws and advocating for the arts, among others.

Accomplished CTE teachers in **information systems and technology** have a comprehensive understanding of the design, development, and management of computer software, hardware, and networks. They know how to use the design process in their field to plan, create, and evaluate products and possess the problem-solving and technical skills needed to troubleshoot issues and devise computing solutions. For example, a programming instructor may teach students to produce interactive games, showing them how to proceed from plot development to storyboarding, the application of multidimensional visual theories, and code writing. Another teacher may have students identify the need for an application, create the program, evaluate its utility among users, and produce an update to improve its effectiveness. Instructors are adept at working with applications and systems software to manage, process, and communicate information effectively and share this knowledge based on the content they cover and the skills they address in their

courses. In the field of web design, accomplished CTE instructors show students how to plan and create user-friendly websites that meet the technical requirements of host servers. They teach students about issues such as website compliance with bandwidth restrictions that determine how much traffic a site can handle. With regard to network architecture, accomplished teachers instruct students in the design and construction of data communication networks, including local area networks (LANs), wide-area networks (WANs), and intranets. Accomplished instructors across this domain teach their students about acceptable use practices in business and industry, including policies to maintain data privacy. For example, a teacher may have students research acceptable use policies from local businesses and explain how they help maintain the security and integrity of business systems. Teachers understand that practices are constantly evolving in computer applications and programming, software development, web development and design, and networking. They develop their skills continually to meet the needs of business and industry and encourage their students to obtain industry certifications as well, all to ensure that students are equipped for, and competitive in, careers within **information systems and technology**.

In the field of **media arts**, accomplished CTE teachers combine artistic talent with technical knowledge to create computer-based graphic art, digital animation, video productions, and sound recordings, and to utilize audiovisual (A/V) and printing technology for a variety of applications. Instructors show their students how to work with software to achieve artistically satisfying and technically proficient results. For example, a teacher may have students identify the topic for a public service announcement about responsible behavior at school functions, work with different software packages to draft multimedia presentations, review the design advantages of each production, use focus groups to pilot the announcements and evaluate their effectiveness, and revise the presentations based on this feedback before airing the announcements for students. Projects for teachers and their students involve audio and visual production, including animation and special effects, for radio shows, musical tracks, theatre performances, television shows, commercials, motion pictures, computer games, and software. Instructors provide their students with exposure to a wide range of projects in preparation for careers throughout business and industry.

Accomplished CTE teachers providing instruction in Information Systems and Technology, Communications, and the Arts recognize that the professions within their specialty area are constantly evolving. Existing career fields are always changing, and new fields often appear on the scene. Instructors prepare students for the dynamic nature of their chosen industries by challenging them with authentic, work-based assignments that require students to confront problems and adapt to project modifications in fast-paced settings. Students build their workplace readiness and project management skills while honing their technical and artistic abilities to create products and services that balance practical communication with aesthetic expression. Accomplished teachers draw on expertise within their field, as well as the general knowledge that informs their practice, to help students develop flexible skill sets for a variety of exciting careers.

Leisure and Recreation Services

Accomplished CTE teachers in the rapidly expanding specialty area of Leisure and Recreation Services prepare their students for careers in **culinary arts, entertainment management, event marketing, food and beverage service, hospitality and tourism, and sports management**. Teachers have a broad knowledge of business functions related to resource and information management, communications, and customer service, which they couple with technical skills within their field of expertise. In **culinary arts**, as well as **food and beverage service**, technical skill sets include the use and care of equipment and technology, food and beverage safety and sanitation, product costing, and preparation and service methods in domestic and commercial settings. In **hospitality and tourism**, technical skill sets include guest and client services, facility management, staffing and training needs, and industry regulations. The skill sets necessary for success in **entertainment management, event management, and sports management** include client procurement, logistics, merchandising, marketing, and contract management.

Using project-based and experiential learning strategies, accomplished CTE teachers help students develop skill sets that combine an understanding of business practices with knowledge of technical methods. For example, a family and consumer science instructor who teaches **culinary arts** may yoke an exercise on the proper handling and storage of perishable foods with a discussion of inventory and cost control procedures in professional kitchens. In this example, the teacher embeds the subject of resource management within coverage of industry-mandated public health guidelines to prepare students for the demands of the workplace. Similarly, a lodging instructor may have students demonstrate the most efficient way to clean a hotel bathroom, or a sports management instructor may have students present a mock sales pitch to acquire an all-star point guard as a client. In both instances, students exercise their technical abilities while developing their communication skills—to train other housekeeping staff in the first example and to establish a productive client relationship in the second. CTE instructors provide their students with a range of opportunities to practice complex skill sets within authentic, dynamic, work-based settings.

Accomplished CTE teachers working within the career cluster of Leisure and Recreation Services foster the entrepreneurial creativity of their students as well by working with them to design business plans and strategize sales and marketing presentations. So, for example, an instructor teaching **food and beverage service** may ask students to present a business plan for a full-service restaurant as part of an integrated, end-of-course project, while an instructor of **entertainment management** may have students make presentations pitching different ideas for a multi-day music festival at a local fair ground. CTE instructors not only help their students acquire business and technical skills, but also assist them in promoting these skills to find—or create—job positions within their chosen career. In classroom simulations, student-run businesses, and other work-based learning opportunities, teachers provide their students with experience in every aspect of business design and implementation within their career fields to help them become successful professionals.

Natural Resources

Accomplished CTE instructors in this specialty area teach courses in agriculture, food, and natural resources. They have an in-depth understanding of life science and possess industry-specific knowledge related to commerce, communication, economics, entrepreneurship, finance, and policy within the realm of Natural Resources. The coursework that these teachers provide is often classified within seven broad categories: **agribusiness systems; animal systems; energy systems; food products and processing systems; natural resource systems; plant systems; and power, structural, and technical systems.**

Accomplished CTE teachers in these diverse groups understand the contributions that each one makes to the study of Natural Resources and are familiar with the career opportunities each provides. **Agribusiness systems** focuses on the legal and business management of agricultural organizations, including communications and public relations. This field positions students for careers as farm managers, commodity traders, advertising specialists, policy makers and other roles in the field of agriculture. **Animal systems** relates to the production, husbandry, and management of companion animals and livestock, leading students to such careers as veterinarians, livestock producers, or fish hatchery managers. **Energy systems** addresses the sustainable production and distribution of resources that fuel our country as well as their economic and environmental impact, which may guide students to careers as geophysicists, wind turbine technicians, blast explosives specialists, or mining managers. **Food products and processing systems** relates to the development of food products, processing and packaging methods, food safety, and food security. Teachers in this field prepare students for careers as laboratory technicians, quality control managers, and food chemists, to name a few. A focus on **natural resource systems** involves the stewardship, conservation, and management of natural resources, wildlife, forest lands, and other ecosystems, including public lands such as parks and wildlife refuge areas. An emphasis in this area helps students pursue careers as habitat specialists, forest rangers, soil conservationists, and arborists, among others. **Plant systems** concentrates on the science of producing, marketing, and utilizing fruits, vegetables, grains, fiber, flowers, and ornamental plants, leading students to such careers as landscape designers, florists, nursery growers, or food and fiber crop producers. Finally, the study of **power, structural, and technical systems** involves the engineering, mechanics, and development of agricultural- or energy-related equipment and structures such as grain bins, silos, or mine shafts. In this field, students are trained to begin careers as land developers, engine mechanics, and agricultural equipment technicians, among others. CTE teachers in the career cluster of Natural Resources have a broad understanding of all seven groups and technical expertise in at least one of them.

Practical experience informs the perspective and craft of accomplished CTE teachers working in Natural Resources, enabling them to educate students in the technical skills and content pertaining to their fields as well as the professional issues and outlooks relevant to their specialty area. The subject matter knowledge of these teachers is

grounded in the history of Natural Resources as a career pathway, framed by an appreciation for the social and political factors that have influenced its development and tempered by an awareness of contemporary issues and emerging technologies likely to affect it in the future. Accomplished CTE teachers are aware that topics related to the industries within Natural Resources can be controversial. Educators are well versed in both sides of controversial debates and practiced in delivering unbiased information. When teaching students about animal rights and welfare, for example, a teacher may facilitate a group discussion in which students research both sides of a debate and cite sources supporting each viewpoint. Alternatively, while addressing the environmental impact of using natural resources for plant or animal production, an instructor might have different teams deliver oral presentations that provide information without making any judgments so students can form their own opinions based on multiple perspectives. Teachers make sure their students understand all aspects of critical issues so they can draw their own conclusions as they develop their knowledge of the area. Accomplished instructors provide their students with a well-rounded education in Natural Resources to prepare them for high demand jobs within thriving industries that help form the backbone of the nation's economic system. These industries drive local, state, national, and global markets by supplying the materials and products used for food, fiber, and shelter.

Transportation Systems and Services

Accomplished CTE teachers in Transportation Systems and Services specialize in vehicle mechanics and transportation networks. Training in this career pathway provides students with the experience they need to pursue careers as automotive technicians, aviation pilots and mechanics, heavy equipment operators, collision repair specialists, and warehouse managers, among others. CTE teachers offer coursework in **automotive maintenance and repair, automotive technology, aviation maintenance and flight, collision repair, diesel technology, health and safety management, heavy equipment operation, logistics, risk management, transportation operations and infrastructure management, transportation regulations, and warehousing and distribution.**

For accomplished CTE instructors working in this career cluster, the general scope of their knowledge encompasses all fields, while their realm of expertise lies in a detailed understanding of business enterprises in at least one domain. Thus, an educator who prepares students for careers in **diesel technology** may also have a sufficient knowledge of **automotive technology** to teach a course or two in this field. Taken as a whole, teachers who instruct students in Transportation Systems and Services use scientific and mathematical principles such as electrical theory, standard deviation, and basic algebra in their technical work. For example, in a lesson on maximizing the number of products that can be transported in a single semi-tractor trailer load, students may learn to calculate volume and weight distribution to ensure stability as well as cost efficiency. Instructors provide students with a strong interdisciplinary background as well as a thorough understanding of the tools, techniques, performance standards, and technological advances endorsed by their industries.

<p>Accomplished CTE teachers understand the driving issues and ideas that span this sector of the market, such as new and emerging materials and technologies, advanced computer applications, leading theories about processing and feedback control, entrepreneurial developments, and economic outlooks. They share these trends with their students while addressing current workplace demands. For example, an instructor may take her class on a field trip to a warehouse facility so students can observe the latest computer inventory systems used to monitor the flow of goods and materials. CTE teachers strive to introduce their students to state-of-the-art developments, and stay abreast of trends in the sector, especially in their field of specialization. For instance, an automotive technology teacher may have a general acquaintance with advancements in logistics while possessing an in-depth understanding of the latest methods for inspecting vehicles and running diagnostic tests, as well as a thorough knowledge of recent changes in fuel efficiency guidelines and emissions regulations. Accomplished CTE teachers have a keen grasp of the technical knowledge and industrial awareness their students need to achieve professional success in the area of Transportation Systems and Services.</p>	
---	--

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Career and Technical Education Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EAYA-CTE.pdf>

<p>ENGLISH AS A NEW LANGUAGE (EMC) & (AYA) <i>Early Adolescence & Adolescence through Young Adulthood (Shared Standards)</i></p>	<p>NOTES</p>
<p>STANDARD IV: Knowledge of the English Language STANDARD V: Knowledge of English Language Acquisition</p>	
<p>OVERVIEW: Accomplished teachers of English language learners have in-depth knowledge of the English language and understand their students’ language needs. <i>(Standard IV)</i></p> <p>Accomplished teachers of English language learners critically evaluate the ways in which students acquire primary and new languages and apply this knowledge to promote their students’ success in learning English.<i>(Standard V)</i></p>	
<p>Standard IV: Knowledge of the English Language</p> <p>Accomplished teachers’ substantive knowledge of English ensures that their English language learners, regardless of backgrounds and proficiency levels, learn and use English effectively. Teachers are familiar with district, state, and national standards and policies that affect their students’ English language development. Teachers purposefully refine and apply their knowledge of the fundamental domains and components of language, and of variations in the use of English.</p> <p>Domains of Language</p> <p>Accomplished teachers have deep knowledge of domains of language—listening, speaking, reading, writing, and visual literacy—in order to assess their students’ English language ability and to effectively address their linguistic needs in school settings.</p> <p>Listening</p> <p>Accomplished teachers understand the features of listening—receiving, attending to, understanding, evaluating, and responding to sounds and messages—and are able to identify unique challenges for English language learners. For example, they understand that speakers from some language backgrounds may not attend to important grammatical inflections on words, such as past tense and plural markers. Teachers analyze the essential components of language that allow students to follow oral directions, understand explanations, take notes, and interpret conversations. Teachers analyze the specific listening challenges students face, such as determining the meanings of words that feature English sounds they cannot distinguish. Spanish speakers, for example, may not recognize the [ɪ] sound in the word <i>ship</i> and confuse it with the [i:] sound in the word <i>sheep</i>. Teachers identify and target the features of listening in colloquial speech such as contractions, reduced forms, hesitations, and</p>	

Reprinted with permission from the National Board for Professional Teaching Standards. All rights reserved.

short sentences typical of spoken English, as well as discourse markers, like *first* and *second*, that signal the organization of spoken messages.

Accomplished teachers can identify when they must probe for or provide prior knowledge to prepare students for effective listening. Teachers know that students who appear to be attentive may not comprehend what they hear, so teachers incorporate multiple methods to check for listening comprehension. Teachers know the importance of providing extra assistance to English language learners as they take notes and organize information. Teachers of students at beginning levels of English language proficiency know how to help students segment speech into syllables and begin to recognize essential words. Teachers assist students at beginning levels of English proficiency in identifying conversational patterns and using strategies such as urging speakers to repeat and paraphrase to clarify points. Teachers instruct learners at intermediate levels of proficiency to listen for phonemes, morphological endings, and stress and intonation contours as cues for meaning. Teachers of learners at advanced levels of English language proficiency may identify text structures by which students can follow narratives, make sense of scientific explanations, or follow complex laboratory instructions. Teachers know that those students need to learn explicit skills in order to comprehend long stretches of English speech in real time, and that students need to quickly identify the purposes and topics of extended listening tasks. Teachers of English language learners at any level know how to help students make inferences and determine speakers' intent.

Speaking

Accomplished teachers thoughtfully analyze the essential language features students need to learn for speech and identify features to include in the curriculum. In terms of pronunciation, accomplished teachers may identify and obtain critical information, such as consonant clusters, vowel diphthongs, syllable structure, and intonation patterns of English as well as components of students' native languages that may influence their speech in English. In terms of vocabulary, they may analyze essential words appropriate for specific audiences, topics, and settings, or words that help students check for comprehension. Teachers may address the purposes of paraphrasing or rephrasing, when necessary, to maximize audience understanding. In terms of grammar, teachers may identify specific grammatical features that students need in order to express themselves in spoken English. Teachers help students express themselves fluently and effectively through pragmatics, such as body language, facial expressions, gestures, rate of speech, and pauses.

Accomplished teachers are able to identify, analyze, and explain a wide range of genres and functions of language, such as apologies and explanations, with specific topics and particular purposes and audiences in mind. They anticipate the language students need to participate in classroom activities, such as interactions with peers and teachers, whole-class discussions, and formal presentations. Such language might include expressions for paraphrasing, for agreeing and disagreeing, and for clarifying.

Reading

Accomplished teachers have a thorough understanding of the linguistic components and cognitive processes involved in reading. These overlapping components include the sounds of language, writing, and spelling systems as well as vocabulary, grammar, and discourse structures used in reading. Teachers recognize the extent to which the language demands of texts influence what students are capable of reading, where gaps in comprehension will likely occur, and when students can read independently. Teachers understand the complexity of students' learning to read in English and address the distinctive language and literacy needs of English language learners.

Accomplished teachers who teach beginning readers have extensive knowledge of the sound system and letter-sound relationships in English and of the challenges these sound-symbol correspondences may present for English language learners from diverse language backgrounds. Teachers identify the precise sounds likely to cause difficulty for distinct groups of English language learners and address these systematically in classroom instruction. Teachers know that decoding skills are vital for beginning readers and have extensive knowledge of English spelling conventions, essential in decoding, that are particularly important for students with educational gaps. Teachers know how to select meaningful, connected texts for their students to read, and they analyze the appropriateness of texts using sound-spelling correspondences that may need to be taught systematically. They apply their knowledge of students' varying levels of language development in English and in the primary language as they help students develop prerequisite skills such as phonemic awareness and decoding. For English language learners who have developed foundational knowledge in their primary language, accomplished teachers help them transfer and use their knowledge to build reading skills in English.

Accomplished teachers analyze the types of word knowledge that students at beginning levels of English language proficiency require, including knowledge of a rich, functional, and high-frequency vocabulary as well as word analysis skills that allow learners to identify prefixes and suffixes and determine word meaning. Teachers know that English language learners who speak languages that share a common foundation with English can rely on their understanding of words with the same or similar base forms. For example, many core English words in mathematics and social studies have cognates in Spanish, such as *addition/adición*, *angle/ángulo*, *civilization/civilización*, and *geography/geografía*. Teachers purposefully help students take advantage of this rich language resource.

Accomplished teachers determine the language difficulty level of texts and select texts appropriate to varying English proficiency levels, cultural backgrounds, and ages. They have a thorough understanding of ways to assist students in reading aloud fluently with appropriate intonation and expression, and they know what constitutes reasonable reading rates for diverse types of texts. Recognizing the critical role grammar plays in reading comprehension, accomplished teachers reflect on the ways grammatical features and word order can be interpreted by English language learners. For example, teachers recognize that as learners read clauses, they interpret

information through word order, phrasing, and the relationships among words. At the same time, learners process grammatical information to infer a text's meaning across phrase and sentence boundaries, for example, by identifying pronoun references and interpreting logical connections among paragraphs.

Accomplished teachers understand that skilled use of transition markers has a strong impact on reading ability. Words like *after* and *next*, for example, indicate chronological sequence; words like *compared with* and *different from* indicate comparison and contrast; and words like *as a result of*, *in order to*, and *therefore* indicate process and causation. Teachers help students learn to identify the meanings of these critical discourse markers and use them in comprehending written texts.

Accomplished teachers identify reading comprehension strategies to build students' background knowledge quickly and match instructional strategies with students' fluency levels and other variables. Teachers are adept at identifying and analyzing the cognitive processes underlying comprehension skills and strategies that enable students to read texts with understanding. Teachers recognize the diverse text structures that help students comprehend informational and narrative texts. Teachers know that students' prior knowledge directly contributes to comprehension, and they identify the precise knowledge and information their students require to understand texts. They might also analyze and teach a variety of reading comprehension strategies that help students self-monitor their reading.

Accomplished teachers critically examine the cultural issues that might interfere with text comprehension. They know that what seems to be an easily comprehensible text may cause problems for English language learners who lack the cultural knowledge to understand it. For example, a story about a child bringing his mother marigolds may create confusion for a student from France, because in France marigolds symbolize death and mourning.

Accomplished teachers are aware that critical reading is not an expected goal of common literacy in all cultures, and therefore some English language learners may be unfamiliar with the practice of reading critically. Teachers understand the importance of this type of reading in English in school and on the high-stakes comprehension tests that prioritize inference skills. Teachers are adept at connecting reading and critical thinking, showing students how to make purposeful, reasoned, evidence-based judgments about their reading. Teachers discuss ways students can improve their ability to read critically, for instance, by identifying component parts of an argument or analysis and drawing appropriate conclusions.

Accomplished teachers have a firm grasp on the skills and knowledge students need in order to access and benefit from technology-based reading. Teachers analyze texts from a wide variety of media and technology-based sources to determine how language affects the presentation of information. Doing so helps teachers reflect on the strengths and limitations of each medium for English language learners of specific proficiency levels.

In addition to all the attributes explained above, accomplished teachers continuously investigate research on reading pertinent to English language learners. They have a strong understanding of research related to topics such as print awareness, phonemic awareness, vocabulary, comprehension, and fluency, and they understand the relevance of these topics for improving instruction for English language learners.

Writing

Accomplished teachers understand the basic rules of handwriting, spelling, punctuation, and capitalization. They can identify letters that are difficult for some students to write, particularly students at beginning levels of English language proficiency. Teachers know the challenges that spelling conventions present to English language learners of diverse language backgrounds and are diligent in identifying needs of specific students.

Accomplished teachers take into account the rich vocabulary English language learners must know to produce clear, grade-appropriate writing for a variety of purposes and audiences. As appropriate to their teaching assignments, teachers help students develop coherence in their writing, establish themselves as authorities, present evidence, convey humor and politeness, and avoid needless repetition. Teachers may analyze word choices related to levels of formality, style, and tone. They have deep knowledge of ways students can use new vocabulary to produce increasingly complex and grammatically correct sentences.

Accomplished teachers reflect on and determine the scope and sequence of grammatical features that support students' writing development. They can identify patterns of grammatical errors in students' writing and know how to address these errors linguistically. They understand that grammar varies according to the context in which it is used. They acknowledge the differences between broad norms of spoken English grammar and the narrow conventions of writing that are sometimes at odds with the norms.

Accomplished teachers are able to analyze and explain such features of writing as thesis statements, paragraph structure and unity, purpose and effectiveness of introductions and conclusions, use of transitions, effective use of evidence and reference information, and audience appropriateness. Teachers recognize that some English language learners approach writing with previously developed understandings of writing structure, and they know how to address these issues sensitively. Teachers of learners at advanced English language proficiency levels identify, explain, and analyze language characteristics of diverse types of analytical and expository writing, such as essays, research papers, and lab reports.

Accomplished teachers know when and how to use process writing, collaborative writing, and timed writing. They know how to adapt writing instruction for students at varying English proficiency levels who may not be able to take full advantage of the basic steps in the writing process. For example, they may modify the idea-gathering stage for students at beginning proficiency levels by scaffolding instruction for them

or by encouraging their use of the primary language in small groups to enable all students to participate in a brainstorming session.

Teachers explore the availability of technology and ways to use technology in writing. They reflect on the use of electronic tools that may involve a combination of images, video, audio narration, music, and writing. They understand the language features and knowledge that students need to produce diverse types of technology-based writing in order to participate fully as literate members of society.

Visual Literacy

Visual literacy is based on the idea that pictures can be read and that meaning is communicated through a process of reading images. Learners can turn information into all types of pictures, graphics, or forms that help communicate information and they can read information from all visual forms. Visual literacy is both receptive (viewing) and productive (visual representation), in that students are both consumers and producers of visual images. Viewing, a component of visual literacy, includes the ability to interpret graphic representations, evaluate media messages, and employ visuals to communicate. Accomplished teachers anticipate and mediate their English language learners' linguistic and cultural difficulties in accessing visual literacy. Teachers identify the specific language and cultural information students require to interpret, discuss, and incorporate visual representations in their communications. Teachers know, for instance, how to evaluate the placement of texts and graphics on a Web site and how to assess the overall impression of Web sites, and teachers can explain this information to students by building on students' past visual experiences. Teachers realize that diverse cultural groups have varying understandings of authorship and ownership of text, and they explicitly teach English language learners about the perceptions and consequences of plagiarism in the United States.

Accomplished teachers ascertain the appropriateness of the instructional use of visual representations for students' age and English language proficiency. Teachers know that visual tools, while helpful to some English language learners, may present linguistic and cultural barriers to others that require explanation. Because technology evolves so quickly, teachers are diligent about staying informed of new technological advances.

Components of Language

Accomplished teachers have a strong background in the components of language—phonology, vocabulary, grammar, and discourse—and know how to facilitate English language learners' effective use of these components.

Phonology

Accomplished teachers are knowledgeable about the sounds of the English language and the ways these sounds combine to form words. They understand basic stress and intonation patterns of English. They also understand English syllable structure, which

may vary from those used in their students' primary languages. In addition, they understand the complex spelling system of English.

Vocabulary

Accomplished teachers have extensive knowledge of word meaning and usage. They effectively explain aspects of words needed to understand multiple meanings and connotations. They analyze and explain information concerning, for example, spelling and the use of words in grammatically correct ways. They teach students roots, affixes, and common Greek- and Latin-based English words. Teachers know how to choose words useful in academic situations that have considerable bearing on students' understandings of the school curriculum, such as words with large word families. Teachers of newcomers, regardless of when students enter the classroom, select words that students need in emergencies—*Help! Stop! Fire!*—as well as words essential to students' everyday lives. Teachers of students with advanced levels of English proficiency identify challenging words and examples of word usage that students need to know to access difficult texts, pass exams, make academic presentations, and succeed in mainstream classrooms. Teachers of English language learners in content classes may identify content-specific vocabulary that often causes confusion and that is essential for learning and expressing important concepts.

Grammar

Accomplished teachers identify and explain the basic features of grammar in the context of meaningful communication. They develop instructional sequences for the presentation of grammar based on criteria including an analysis of instructional material. Through knowledge of students' primary languages as well as through formal and informal assessments, teachers identify and address students' grammatical needs by determining the causes of errors. Teachers are well-versed in English morphology and syntax. Because many students at intermediate levels of English language proficiency have difficulty improving their grammar, teachers of these students identify challenges presented by problematic grammatical features, such as noun systems, complex clauses, conjunctions, and embedded quotations. To meet the needs of learners at advanced levels of English proficiency, teachers develop an extensive familiarity with grammar that includes knowledge of passive constructions, conditionals, and causative structures.

Discourse

Accomplished teachers are adept at analyzing the forms of discourse, including functions such as complaints and refusals; genres, such as stories and lab reports; and conversational and organizational features, such as openings and closings of conversations and expository writing. They determine problems students encounter in communicating, and they examine the discourse sources of the problems. Accomplished teachers know writing conventions and discourse organization differ across languages and cultures. For some cultural groups, for example, the introduction to a business communication requires an exchange of initial pleasantries

before revealing the purpose of the letter: “Dear Sir: I hope this letter finds you well and you are enjoying our fine spring weather. I am writing to request a copy of your invoice for services rendered.” Teachers of newcomers who enter their classes at any time of year are adept at identifying specific discourse features that should be taught immediately. Teachers of learners at advanced levels of English language proficiency know the characteristics of a large array of complex genres, such as argumentative, narrative, informational, descriptive, literary analysis, and expository writing. Content teachers of English language learners teach the discourse features characteristic of their content areas. Mathematics teachers, for example, can explain the structure of word problems, focusing students on the relationships between numbers.

Variations in Language Use

Accomplished teachers analyze variations in the use of English—language variation, social language, and academic language—and consider other variables such as situational settings. They are familiar with dialectology and the range of dialects used in the United States, particularly in the communities where they work and in the countries from which students have come. They recognize code switching as a means of participating in social interaction, building community, and expressing identity. Teachers understand the characteristics of social language and academic language.

Social English Language

Accomplished teachers are aware of the characteristics of social language, including vocabulary and fixed expressions, grammatical features, and discourse structures. Teachers recognize the language that students need to use when interacting informally. They are able to explain clearly the social consequences of inappropriate words and utterances. Teachers, for instance, identify and explain politeness features that students may use in social situations. They recognize that social language has important features that may be too subtle for students to recognize, such as nonverbal cues that others may provide in the course of interactions. They identify the specific types of social language that can improve students’ interpersonal relationships, help them gain peer acceptance, express their own views and emotions, and recognize others’ views and emotions. For early childhood students, for instance, teachers understand the value of pretend play and cooperative play activities in promoting language and literacy development and learning. Teachers provide opportunities for early childhood students to have time for play in centers where conversation can be incorporated into play.

Academic English Language

Accomplished teachers understand that language required in academic settings is complex and can be less familiar and more demanding than the language of everyday settings. Teachers know that students’ facility with academic English is crucial to access content-area curricula and to benefit from instructional activities, assignments, and assessments. Teachers may determine that students need to know specific words relevant to all content areas, such as analyze, evaluate, discuss, and

clarify, as well as grammar characteristic of specific content areas, such as passive structures in science, and the non-literal forms of language, such as idiomatic and metaphorical expressions used in literary texts.

Accomplished teachers analyze the features of academic English used in various content areas, drawing on their broad understanding of key concepts and the linguistic demands that content areas require of English language learners. Regardless of instructional settings, teachers are familiar with content-specific language students need. To study history, for example, teachers know that students must understand language dealing with causation, time, order, and sequence. To assist students in understanding algebra, for instance, teachers examine the language of math problems and language important to understanding number systems, symbolic expressions of quantitative relations, or trigonometric functions. For early childhood students, teachers might provide opportunities for students to express causality, such as “I like...because...”

Accomplished teachers know that students—regardless of English proficiency levels—can engage in higher-order thinking, and they foster essential skills that allow students to hypothesize, infer, generalize, and predict. Teachers analyze the language forms and functions that appear in academic texts and tasks, such as complex clauses and decontextualized language, which convey meaning through linguistic cues independent of the immediate context.

Reflection

Accomplished teachers of English language learners reflect on the vital role that a strong knowledge of English plays in learning and communicating. When considering the essential language domains and components, they realize the need to stay abreast of the most current literature in the field and reflect on how they can use research findings to inform their instruction. Teachers reflect on their analysis of the language demands of tasks and texts, anticipating the language needs of students and the linguistic challenges they face. Teachers reflect on their observations of students’ progress in acquiring specific features of language. Teachers analyze their knowledge of language domains, components, and variations to address students’ communicative needs in listening, speaking, reading, writing, and visual literacy in a wide range of social and academic settings. Their reflection is based on a deep understanding of the systematic yet variable nature of language and of the value of a multilingual society.

Standard V: Knowledge of English Language Acquisition

The instructional decisions made by accomplished teachers are informed by their inquiries into the current research regarding English language acquisition. Research findings enable teachers to analyze and critically evaluate theories and hypotheses concerning English language acquisition in terms of relevance to improving students’ language development. They deliberate on developmental stages in the acquisition of English and accurately characterize their students’ language acquisition patterns.

Teachers know that, for many students, English language acquisition is not a linear process. Teachers take into account a range of factors that influence students' acquisition of English.

Language Exposure

Accomplished teachers understand that students' exposure and active attention to English directly affects their English language development. Accomplished teachers analyze students' exposure to English, identifying the characteristics of high-quality language exposure that maximize students' English language development. Teachers evaluate ways to expose students to engaging, relevant, and meaningful language. Teachers deliberately increase the quality of their students' exposure to English, for instance, by building on students' interests, language goals, and prior knowledge. Teachers are adept at identifying and employing multiple ways to ensure that students understand the English they read and hear. Teachers can identify aspects of English that students have acquired and those aspects of English that students need for social purposes and to access content.

Accomplished teachers determine when and how to provide models of language adapted to students' language proficiency levels in order to reduce the language demand, build background knowledge that enhances students' ability to comprehend what they read and hear, and offer more challenging texts. Teachers understand that students often can understand more English than they can produce, and teachers know that involving students with understandable but increasingly complex and sophisticated language supports their development of English. Teachers determine when to expose students to individual words and phrases and when to expose them to larger stretches of discourse.

Accomplished teachers thoughtfully develop plans to ensure that students receive repeated exposures to specific aspects of English. Teachers critically evaluate students' English language development to determine which students require additional, meaningful opportunities to read and hear specific language features, how much exposure each student requires, and which instructional experiences best provide students with multiple exposures to language.

Language Awareness

Accomplished teachers quickly identify features of English that students cannot acquire through exposure alone, and they determine when to call deliberate attention to language forms and the accurate use of these forms. When teaching language forms through oral reading of books, for example, teachers may have early childhood students raise their hands when they hear words that rhyme, or have older students identify adverbs by raising their hands when they hear words that end in -ly. Teachers know that language awareness directly affects language development, and they have facility in explaining language to their students. They examine how English works in terms of sounds, spelling, words, grammar, and discourse. When exploring the persuasive function of advertisements, for instance, teachers draw students'

attention to the purposeful use of such forms as adjectives, imperatives, and questions.

Interaction and Practice

Accomplished teachers know students acquire language through the exchange of meaningful messages and identify and evaluate ways of providing students with multiple opportunities to practice using English to communicate inside and outside the classroom. Teachers understand that not all interactions improve students' acquisition of English; they identify the characteristics of effective interactions and practice, such as meaningful and scaffolded use of the targeted language and the ways students can use English to improve their language development. Teachers know specific features of English that students need to acquire and how to structure practice to enhance development of these features over time.

Interdependence of Language and Content

Knowing that English language learners acquire academic English effectively when it is taught and learned along with academic content, accomplished teachers are adept at integrating content and language instruction. They analyze the interdependence of language and academic content, noting how this association increases in upper grades as students' development of content knowledge becomes more intimately linked with their command of academic English. For teaching narration in English language arts, for example, teachers of early childhood students may have the students retell a fairy tale in chronological order while teachers of older students would instruct them in the use of embedded quotations in their readings.

Interdependence of Reading, Writing, Speaking, Listening, and Visual Literacy

Accomplished teachers use and apply their knowledge of the interdependence of listening, speaking, reading, writing, and visual literacy, and the ways this interdependence can accelerate students' English language acquisition. Listening, speaking, and reading, for instance, support writing development. Teachers know that academic writing, which involves accuracy and precise expression, contributes to the development of proficiency in academic oral language. They also know that reading provides students with rich language models and that discussions of readings help students retain, analyze, and recall language. Teachers analyze effective ways to integrate all domains—listening, speaking, reading, writing, and visual literacy— to accelerate and reinforce students' language development. When students have difficulty learning features in one domain, teachers determine ways of improving students' development of features by using other domains.

Explicit Instruction

Accomplished teachers make language salient for students because they understand that effective, explicit instruction fosters acquisition of particular aspects of English. Teachers draw students' attention to target forms and facilitate processing of these

forms for productive use of language development. Teachers know that students who do not receive explicit language instruction may stop acquiring these features of English, which could prevent them from fully developing academic English.

Instructional Feedback

Accomplished teachers have a thorough understanding of the relationship between language development and instructional feedback. Because teachers know that constructive feedback helps students notice gaps within their production of English, teachers target forms and functions of English that students are developing. Teachers provide continuous, systematic, and supportive feedback tailored to students' needs to facilitate English development. They easily discern when to model language forms, when to ignore students' language errors, and when to correct students explicitly. Teachers provide sensitive feedback to support students' correct and effective use of English. Teachers identify errors common to students of diverse language groups and varying English proficiency levels. Teachers recognize that some students who have not demonstrated sufficient progress learning English might require sustained feedback, over time, that is focused on specific language features those students are no longer developing.

Language Transfer

Accomplished teachers accurately evaluate students' knowledge of their primary languages and build upon that knowledge when teaching English. Teachers understand the effects of students' primary language and literacy on English language development.

Accomplished teachers determine aspects of students' primary languages that may transfer to English and may affect students' learning of English, such as sounds, spelling, word meanings, grammatical rules, word order, rhetorical features, and discourse structures; this awareness helps teachers design and implement instruction. Teachers may examine language transfer with students to increase language awareness and to support the positive transfer of language features. Teachers, for example, may encourage students to practice transferring cognate knowledge, and they may provide targeted feedback. Teachers know students may have valuable reading skills in primary languages that may transfer to reading in English. When appropriate, teachers judiciously contrast learners' primary languages to English in order to focus on new features of the target language that may differ or not exist in their primary languages.

Accomplished teachers recognize that many factors influence language transfer, including proficiency in the students' primary languages and in English as well as similarities and differences between the two languages. Teachers know that many learners are in the process of acquiring or losing their primary language, while some may have acquired only partial proficiency in one or more of the five language domains. Such students are often unsuccessful at transferring features from their primary language to English. Teachers understand, however, that students may

transfer features from an informal, oral variety of their primary language into English or an informal variety of English into academic English.

Educational Background

Accomplished teachers analyze the impact that English language learners' educational backgrounds have on language development. Teachers know students rates of language acquisition can vary greatly depending on their degree of exposure to literacy and academic language in any language at home and in school, their access to continuous formal education whether in their primary language or in English, their ability to use their primary language to read and write for academic purposes, and their ability to communicate meaningfully. Some students have experienced interrupted or limited education and may have underdeveloped literacy skills that impede their ability to learn academic English. Accomplished teachers know how to identify specific strengths and weaknesses in students' educational backgrounds. Teachers provide instructional supports to accelerate students' development of English while at the same time helping students overcome educational gaps and build upon their previous schooling. (See Standard I—Knowledge of Students.)

Culture and Sociolinguistic Variables

Accomplished teachers evaluate cultural and sociolinguistic variables that affect students' language development. In identifying and responding to instructional needs of students, for example, teachers differentiate between the needs of native English speakers and the needs of English speakers from countries such as India, Liberia, and Jamaica who are learning academic language. Teachers know that cultural backgrounds create contexts in which students build frameworks for understanding English, which, in turn, facilitate English language development. Teachers identify cultural differences in learning and communicating and the specific ways these differences affect students' development of English. Teachers analyze languages and dialects spoken in the community to predict, understand, and mitigate difficulties students may encounter as they learn English. Teachers know that regional language patterns and dialectal variations can be misinterpreted as speech and language delays or deficiencies. Spanish speakers, for example, may have difficulty consistently producing the [j] or sh sound in English because it does not occur in Spanish, just as some English speakers may have difficulty trilling the [rr] sound in Spanish words like *perro*. Teachers also know some errors that appear to be reading miscues, such as reversing the [k] and [s] sounds in ask, may actually reflect dialect differences or instances of English language learners' efforts to construct language as they read for meaning.

Age and Length of Time in the United States

Accomplished teachers know that students of disparate ages and varying time in the United States acquire academic and social language at differing rates. In general, young students learn English at rates different from older students and face

less-challenging language demands than older students. As a consequence, older students may require more intensive language supports than younger students, especially when older students have experienced gaps in language and academic development. All students, however, require sufficient, deliberate instruction to develop age- and grade-level appropriate English.

Motivation

Accomplished teachers make informed decisions for instruction that reflect their understanding of how to motivate varied groups of English language learners who may include newcomers; long-term residents of the United States; and students of diverse abilities, primary languages, and cultural backgrounds. Because accomplished teachers understand the effort required by students to advance their English language development and to improve their abilities in specific areas such as reading, writing, and vocabulary, teachers encourage students to develop habits of perseverance. They incorporate activities that foster students' ability to monitor their own behaviors so they learn to motivate themselves and support their own English language learning. (See Standard VI—Instructional Practice.)

Other Factors Affecting Language Development

Accomplished teachers analyze student variables that may affect English language development and academic success, such as time of arrival; social, political and economic factors; identity; exceptional learning needs; rural, suburban, or urban environment; cognitive readiness; and aptitude. Accomplished teachers, for example, know that students who live in rural areas might be isolated from communities that speak their primary language and are likely to communicate solely in English in school as well as in the larger community. Teachers know that the linguistic isolation experienced by such students might influence their acquisition of English as well as the loss of their primary language; conversely, a lack of instructional support may result in students' developing social but not academic language in both English and in their primary language. Accomplished teachers may try to help these students maintain and develop their primary language by locating resources in that language and support their development of English by addressing their specific academic language needs.

Myths and Misconceptions about English Language Acquisition

Accomplished teachers are familiar with myths and misconceptions commonly held about English language acquisition: students acquire English more quickly if their families speak only English at home, immersion in an English-speaking environment alone is sufficient to accelerate English acquisition, students have fully acquired English once they appear to be speaking fluently, and all students learn English in the same way and in the same time frame. Accomplished teachers know how and when to educate colleagues about relevant aspects of English language acquisition, respecting their colleagues' professionalism while providing opportunities to learn about the language acquisition process. For example, teachers may informally point

<p>out to a colleague that a student’s pronunciation of English does not necessarily equate with that student’s literacy skills and knowledge of academic English. Teachers may also provide more formal professional development opportunities to colleagues, for instance, teaching them a content-rich lesson in a language their colleagues do not understand in order to build empathy for English language learners and to illustrate features of the language acquisition process.</p> <p>Reflection</p> <p>Accomplished teachers thoughtfully consider factors that influence English language acquisition as they evaluate students’ needs and plan instruction. Teachers purposefully seek to advance their knowledge, to stay current in research, and to evaluate theories in relation to their own instructional context. Teachers reflect on students’ need to develop English language and literacy skills, and they make sound decisions that facilitate their students’ English language acquisition.</p>	
---	--

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the English as a New Language Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/ECYA-ENL.pdf>

ENGLISH LANGUAGE ARTS (EA) & (AYA) <i>Early Adolescence & Adolescence through Young Adulthood (Shared Standards)</i>	NOTES
<p>Content Knowledge is included throughout the English Language Arts Standards. Sections from the following standards are included:</p> <p>STANDARD V: Reading and Viewing STANDARD VI: Writing and Producing STANDARD VII: Speaking and Listening STANDARD VIII: Language Study STANDARD IX: Inquiry</p>	
<p>OVERVIEW: All aspects of accomplished teaching are predicated upon content knowledge. <i>Introduction section, p. 16</i></p>	
<p><i>From Standard V: Reading and Viewing</i></p> <p>Accomplished English language arts teachers understand the profound importance of reading and viewing for early adolescent and young adult learners. Teachers know that when students read and view texts of many kinds, they encounter people and situations with which they are both familiar and unfamiliar, they are introduced to people they admire and revile, they are exposed to the human condition at its core, and they develop a broader understanding of the world. This exhilarating journey gives birth to voices, hopes, and dreams.</p> <p>Accomplished teachers realize that the act of reading is no longer limited to deciphering and interpreting words on the printed or digital page and that today's students must become critical readers of texts in many different media, including illustrations, graphic novels, photographs, television programs, online broadcasts, advertisements, magazines, newspapers, films, songs, speeches, debates, websites, multimedia resources, and works of art. Therefore, the word text in this document refers to both print and nonprint text, whether this meaning is stated explicitly or not.</p> <p>Accomplished English language arts teachers know that reading and viewing involve the construction of meaning and that active readers and viewers intentionally engage with text. Teachers understand that reading and viewing are contextual; they are affected by the nature of the text, the situation in which the text was created, and the situation in which the text is being read. A student's ability to construct meaning depends on the student's background knowledge, interest, skill, purpose, and developmental level. Reading and viewing are also intentional; readers and viewers must apply strategies to derive deeper meaning from text. Realizing that reading and viewing are social processes, accomplished teachers continually assess and reflect on their instructional practices to enhance students' growth as readers and viewers. (See Standard VII—Speaking and Listening.)</p>	

The Purposes of Reading

Accomplished English language arts teachers realize that students engage in reading and viewing for many reasons. Purposes may include, but are not limited to, gathering information, challenging one's perspective, stretching one's imagination, understanding the human condition and the world, and simply reading for pleasure. Ideally, the goal of accomplished teachers is to inspire a love of reading and skill in reading, ultimately creating lifelong learners.

Accomplished English language arts teachers help students understand that one's purpose for reading should influence the way one chooses and approaches a text. For example, a student in search of a specific item of information might skim quickly or, in the case of digital text, perform a keyword search. A student with a different purpose, such as analyzing the viewpoint in a controversial documentary, would need to carefully follow the logic of the premise and evaluate the facts used to support it. Teachers help students realize that one's purpose can change as one engages with a text, and that new strategies may flow from a revised purpose. For example, a student who starts out by skimming a text for a fact may encounter an engrossing argument and decide to slow down, read more carefully, and then reread. Accomplished teachers help students set purposes for reading and viewing, leading them to develop and articulate their own purposes and strategies. Ultimately, students will employ these skills in disciplines other than English language arts. For example, when solving a mathematical equation, students understand the necessity of going slowly, taking things apart, and checking understanding. In social studies and science, students learn to pay close attention to features such as headings and subheadings to identify main ideas and chunks of information.

Genres

Accomplished English language arts teachers recognize that students need experience recognizing various genres, including, but not limited to, poetry, drama, novels, biographies, speeches, journal articles, essays, video games, and documentaries; students also need exposure to both canonical and contemporary texts. Accomplished teachers help students appreciate each genre's unique characteristics. Teachers instruct

students about the purposes and features of various genres to prepare students to become more sophisticated thinkers and communicators.

Accomplished English language arts teachers help students understand the features of texts. For example, teachers explain the structures of novels, short stories, plays, and poetry. They help students analyze plot, including flashbacks and foreshadowing. They teach poetic forms such as haiku and sonnets. They help students analyze organizational patterns, rhetorical devices, graphic elements, and other features that help convey meaning to the reader. For example, a teacher might model how to analyze a political cartoon or persuasive essay for propaganda techniques and fallacious reasoning. Accomplished teachers explain how to assess the currency, reliability, and bias of sources and data. They help students become aware of how the

careful interpretation of themes, viewpoints, archetypes, stereotypes, symbolism, figurative language, allusions, motifs, and other conventions can lead to deeper understanding of a text. Accomplished teachers instruct students about the ways in which commercial, social, cultural, and political messages are embedded in texts.

From Standard VI: Writing and Producing

Accomplished English language arts teachers have a broad understanding of the ways in which the traditional field of writing is evolving to incorporate varied forms of production. Accomplished teachers realize that, no matter what the ultimate product may be, effective writing and producing involve the processes of formulating, revising, and refining texts to share ideas in compelling and meaningful ways. Accomplished teachers understand that their role is to help students refine the skills they need to communicate for specific purposes, to specific audiences, and in specific forms. Teachers understand the value and purpose of each writing or producing task, and they choose activities that develop each student's communication skills in response to student needs and interests and to learning goals.

Accomplished English language arts teachers understand that writing and producing are not limited to the academic environment. Today's students are regularly writing and producing meaningful texts outside school; these include private texts such as journals, diaries, and poetry, and more public texts such as social media, messaging, online videos, and blogs. Accomplished teachers recognize that today's students are no longer passively consuming texts; rather, they are often simultaneously consuming and producing them. Students see media products as ripe for adapting, remixing, and recreating; furthermore, authorship is often collaborative rather than individual. Out-of-school writing mirrors the traditional writing process in many ways but is different in other respects. Accomplished teachers know how to capitalize on out-of-school writing and producing so that students grow as effective writers and producers in both academic and nonacademic contexts.

Accomplished English language arts teachers know that writing and producing are ways to communicate understanding, demonstrate acquired knowledge, share experiences, defend claims, promote entertainment, connect with others, and experience enjoyment and beauty. Teachers respect their students' abilities as innate communicators and build on these abilities to empower students' voices, expand their thinking, and equip them with the tools to write across the curriculum. Accomplished teachers instill in students the dispositions recognized as central to success in writing and producing: engagement and open-mindedness, accuracy and imagination, determination coupled with adaptability, and the willingness to analyze one's own thought processes. Teachers provide an equitable space for both individual development and collaboration, and they use writing as a means of developing students' sense of civic responsibility and their global awareness.

Knowledge about Writing and Producing

Accomplished English language arts teachers understand that their students need to

gain experience with a wide range of writing and producing tasks to progress in their overall expertise. Accomplished teachers possess and apply knowledge about the purposes, genres, processes, and evolving nature of writing and producing. They understand that public forms of writing and producing can be used to inform, explain, entertain, describe, illuminate, persuade, influence, beguile, impress, or otherwise affect an audience. Accomplished teachers understand that private forms of writing and producing can be used to promote self-awareness, clarify the writer's thoughts, or work through emotions.

Accomplished English language arts teachers are fluent, effective writers and producers who themselves regularly practice writing and producing. They model the love of writing and producing and the satisfaction gained from effective communication. Accomplished English language arts teachers have expertise in the technical aspects of writing; they know the rules of English grammar, usage, and composition and understand how to create a distinct voice. They understand and appreciate devices such as figurative language, symbolism, dialogue, foreshadowing, and characterization. They comprehend many ways of structuring texts, depending on the purpose, format, audience, or medium involved. For example, teachers understand that designing a website involves presenting material in a nonlinear or multilayered fashion as opposed to sequencing ideas linearly in a traditional printed text.

Accomplished English language arts teachers are familiar with the full range of genres that students can write and produce, including, but not limited to, critical essays, research papers, policy documents, song lyrics, fiction, screenplays, poetry, websites, digital stories, creative nonfiction, responses to literature, journalism, memoirs, captioned photographic essays, book trailers, social media, wikis and blogs, video games, mobile applications, and audio compositions. Teachers understand the conventions and purposes associated with various genres, but they also realize that genres can be redefined and combined according to different contexts and purposes. Accomplished teachers explore emerging genres for their potential in developing standards-based knowledge and skills in English language arts.

Accomplished English language arts teachers understand that it can be helpful to think of writing and producing in terms of stages such as prewriting, drafting, revising, editing, and publishing. They also acknowledge that not all writing and producing requires each step in the process; that students may approach the steps in different ways; and that the order of the steps may change depending on the context, purpose, and audience. Teachers recognize the recursive nature of writing. For example, a student writer preparing a college admissions essay often revises the text many times to perfect the final product, altering the essay for submission to different colleges. A student writer completing an illustrated class biography might need to revise drafts based on new life events.

Accomplished English language arts teachers know that writing and producing are means of connecting with literature, culture, and society, as well as with personal growth, opinions, and feelings. Teachers know that effective writing and producing encompass skills that are refined in the learning environment but that can have

immediate impact and application in the real world. Accomplished English language arts teachers explain that good writing and producing must move beyond the merely formulaic to reflect the student's ability to retrieve information, select relevant details, organize topics logically, synthesize ideas, generate insights, and evaluate the results of their work. Students of accomplished teachers learn that the goal of public writing is to create fluent, connected, and relevant texts that engage the audience. Ultimately, accomplished teachers know how to help their students gain expertise in using writing and producing to cross many different contextual borders.

Accomplished English language arts teachers are aware of the strong connections that exist among the language arts. They know that students who are strong readers are likely to have greater control over their writing than students who have trouble reading or who choose not to read. Likewise, students who are articulate speakers can often build on their speaking and listening skills to become better writers and producers. Teachers understand that students can also use writing and producing to explore the questions developed through inquiry. (See Standard V—Reading and Viewing, Standard VII—Speaking and Listening, and Standard IX—Inquiry.)

Accomplished English language arts teachers are also aware of the relationships that exist among language arts and other disciplines. Accomplished teachers understand that language arts students need specific skills to produce meaningful texts in other content areas. Teachers also understand that students can use writing and producing to reinforce their learning in other subjects. For example, an accomplished teacher might model how summarizing can reinforce a student's comprehension of a mathematical concept, or how writing a personal narrative can deepen students' appreciation for a historical memoir such as Booker T. Washington's *Up From Slavery* or Mary Chestnut's Civil War diaries. English language arts teachers might invite colleagues in other disciplines to instruct their students. A film teacher might teach language arts students how to create podcasts or short films, or a social studies or science teacher might illuminate the topics about which English language arts students are writing and producing texts. (See Standard XI—Collaboration.)

Accomplished English language arts teachers recognize that students are more connected to peers, media, and the world at large than ever before. Youth converse across space and over time in a hyperproductive fashion. Regular engagement in textual conversations, media production, and participatory gameplay acculturates students toward meaningful production that invites feedback, immerses students in collaborative communities, and values student knowledge. Accomplished teachers capitalize on these components of engagement when constructing and implementing in-class production.

Accomplished English language arts teachers instruct students in the etiquette of participating in online forums. Teachers contrast the tones and styles appropriate for academic versus social communication. They also teach students how to participate in such forums effectively, for example, by considering the potentially negative impact of overusing elements such as capital letters, excessively short sentences, and abbreviations. Students learn to temper a disagreement with an introductory phrase,

and realize how their comments will appear online, for example, in the context of a previous discussion or in isolation. Accomplished teachers instruct students in the effective use of hyperlinks, showing them how to insert such links so that they do not interrupt the flow of the text in a jarring way.

Accomplished English language arts teachers recognize that technology tools, particularly social media sites and text messaging, have the potential for misuse by early adolescents and young adults, particularly through spreading rumors and in cyberbullying. Accomplished teachers actively teach students that not only do writers have ethical responsibility for their work, but also that there can be school sanctions and legal consequences for writing that is hurtful, slanderous, or hateful. (See Standard II—Fairness, Equity, and Diversity.)

From Standard VII: Speaking and Listening

Accomplished English language arts teachers understand that speaking and listening are fundamental skills for language development and human interaction. Teachers know that speaking and listening are closely interrelated behaviors that enable students to make sense of their world as they absorb, analyze, and synthesize information and then reflect, develop, and express meaningful responses. Accomplished teachers engage students in speaking and listening for varied purposes, in wide-ranging contexts, and with specific strategies.

Accomplished English language arts teachers understand that speaking and listening involve literacy skills that require students to construct meaning in ways analogous to the ways they construct meaning through writing and reading. Therefore, accomplished teachers integrate speaking and listening with writing, producing, reading, and viewing. Accomplished English language arts teachers understand that some early adolescents and young adults are uncomfortable when asked to share their thoughts orally or converse with other individuals and groups, and therefore teachers scaffold speaking opportunities for such students. Teachers understand that a flexible approach to speaking and listening instruction creates fairness and equity by affording students with diverse strengths and temperaments alternative entry points into the curriculum.

Accomplished English language arts teachers are themselves adept at speaking and listening, and they consistently model these skills for students. Teachers establish high expectations for their students and provide a clear understanding of these expectations. Accomplished teachers facilitate and adapt to student needs with definite objectives in mind, using feedback and other assessment tools to help students navigate the complexities and challenges of speaking and active listening. Teachers understand that speaking and listening are used to establish social and emotional relationships, acquire practical skills, absorb and articulate academic content, conduct inquiry, advocate for oneself and others, practice citizenship, participate in civil and democratic dialogue, and function in the adult world. Therefore, teachers continuously reflect on the effectiveness of the speaking and listening opportunities within the learning environment.

Purposes and Contexts for Speaking and Listening

Accomplished English language arts teachers understand the many purposes of speaking and listening, and they realize that speaking and listening take place in a wealth of contexts. Teachers know that different contexts afford varying opportunities for applying speaking and listening skills, and they are aware that particular students flourish in some situations and need more practice in others. Therefore, accomplished teachers provide multiple contexts in which students can develop their speaking and listening skills.

Accomplished English language arts teachers structure activities to encourage students to listen with appreciation, critical awareness, and empathy. Teachers help students receive, comprehend, assess, and evaluate aural information; follow oral directions; respond appropriately to verbal and nonverbal cues and feedback; pick out main ideas and significant details; and appreciate the free expression of others. Accomplished teachers help students develop into purposeful listeners who process what they hear and are attentive, open-minded, and respectful. Opportunities for students to listen for different purposes and in various contexts include listening to an individual versus a group, listening quietly versus listening as part of a conversation, listening to a person who is physically present versus listening to recorded speech, listening to a speaker using an unfamiliar dialect versus listening to someone who uses the students' native dialect, and listening for important details versus listening for general ideas.

Accomplished English language arts teachers also provide their students with many contexts for speaking. Activities may include, but are not limited to, small-group or whole-class discussions of texts, debates, mock trials, oratorical advocacy, extemporaneous speaking, storytelling, podcasts, documentaries, and student broadcasts of morning announcements. Accomplished teachers explain to students the different purposes for speaking: to inform, to entertain, to inspire, to describe, to persuade, and to inquire.

Accomplished English language arts teachers acknowledge the speaking and listening skills that students bring to the learning environment. They tailor contexts that build on the abilities that students possess, teach skills that students lack, and continuously expand and refine students' capacities. For example, upon recognizing that a student who struggles with writing is an eloquent speaker, a teacher might have the student use audio recordings such as podcasts as a strategy for prewriting a formal essay. The student could convey ideas orally, and then listen to the podcast and convert the spoken word to a written product. (See Standard I—Knowledge of Students.)

Accomplished English language arts teachers help students explore, understand, and appropriately use, or code-switch among, the different forms of language found in various home, school, and community settings. Teachers are aware that in informal situations, students speak for purposes different from those in class, often moving between Standard American English and more colloquial idioms. Teachers celebrate the diversity of language in their learning environment and validate linguistic and dialectal

variations within the learning community, such as the regional speech patterns of various ethnicities. However, teachers make it clear that a speaker must always consider audience and context and that Standard American English is essential in formal communication. (See Standard VIII—Language Study.)

Accomplished English language arts teachers know that speech expectations vary across social, cultural, and familial contexts. Teachers are sensitive to factors that may cause some students to be reluctant to speak and others to be more loquacious. For example, cultural norms might make one student reserved, whereas a family's interactional style might make another child especially verbose. Accomplished teachers build on casual classroom conversations to develop skills that can be used to explore language arts content. Teachers respectfully elicit participation from all students and work to maintain a balance among speakers so that everyone's contributions are valued.

From Standard VIII: Language Study

Accomplished English language arts teachers are well versed in the basic underpinning of their discipline: language. They recognize the flexible, shifting nature of language, understanding that languages have evolved over time in relationship with one another and in response to significant cultural, social, and economic forces. Accomplished teachers are well informed about the history of the English language and how it continues to develop in terms of pronunciation, word choice, idiomatic usage, degree of formality, speed of delivery, intonation, and grammatical structure. They understand that English is both a tremendously empowering communicative tool and an artifact of human ingenuity with a fascinating history, a vigorous present, and an expansive future. They are aware that language use is closely related to context and that varied modes of English language usage have different effects on listeners and readers.

Accomplished English language arts teachers encourage their students to approach the study of the English language with objectivity, open-mindedness, curiosity, and an alertness to the many stories and nuances of meaning embodied in our language and its rich dialectal variations. Accomplished teachers understand that certain language forms provide greater access to the economic, political, and academic advantages of society than do other forms; therefore, teachers promote language study as a means of equitable access to social benefits for all students. Because language study is integrated across reading, writing, speaking, and listening, accomplished teachers usually evaluate language skills as a part of a larger whole rather than in isolation.

The Evolving Nature of the English Language

Accomplished English language arts teachers acquaint students with the development of the English language. For example, they might discuss major influences from the Greeks and the Romans to the Anglo-Saxons and the Normans. In addition, accomplished teachers guide students to discover the infusions of vocabulary that came into English from other sources, such as the Native American words absorbed by English colonists and the Arabic words introduced into English by travelers on the trade

routes between England and the Middle East during medieval times. Accomplished teachers demonstrate that language is an evolving human invention, and they capitalize on the language diversity in a learning environment to examine the words that constantly enter English from other languages.

Accomplished English language arts teachers understand how historical events have influenced the growth of the English language. For example, they help students explore how advancements in the field of technology have changed the language, from the printing press to modern technology, or how words from specialized fields can become part of everyday usage. Teachers might have students identify words such as “mouse” that have acquired new definitions as new technologies have been invented. Furthermore, accomplished teachers show students how English came to have abundant synonyms and how some words became taboo words while others were accepted as formal and proper. An accomplished teacher might help students understand the concept of how language changes by asking students to predict which of their own slang terms and casual expressions will find their way into the mainstream language and perhaps into the dictionary.

Accomplished English language arts teachers accept that language use and language contexts are always evolving. New words enter the language, old words develop new meanings, and grammatical structures are modified. Accomplished teachers understand that rapidly developing technology has not only resulted in the introduction of new words, but also has affected the speed with which these words become widely used in everyday language. Teachers realize that the language of youth and popular culture is rapidly spreading to the world at large. Accomplished teachers are aware of changes not only in vocabulary, but also about the alterations taking place in the use of grammar and punctuation and in what constitutes acceptable usage. For example, teachers are aware of the increasing tendency to use as verbs certain words that were once used only as nouns. Accomplished teachers welcome alterations in language as tools for teaching and deepening students’ appreciation for language’s role in communication.

Accomplished English language arts teachers use the study of literature as a natural opportunity to survey the history of the English language. By reading novels and plays, students can notice how language has shifted over time and across locations. Accomplished teachers help students learn how to read earlier forms of language and understand their social and historical contexts. For example, a teacher might have students compare the language in different translations of Beowulf.

Language in Context

Accomplished English language arts teachers recognize and value the diversity of language forms in the United States and know that dialects are richly expressive communicative tools. Teachers realize that each student speaks with a dialect that reflects a particular regional upbringing, ethnicity, occupation, age, and socioeconomic class, and teachers continually affirm their students’ entitlement to and pride in the variations of English that they and their communities employ. At the same time,

accomplished teachers know that effective use of Standard English not only facilitates oral and written communication, but also creates greater access to the economic, political, and academic advantages of society. Therefore, teachers strategically integrate the rules of grammar and usage in the language arts curriculum by showing students how to apply conventions in formal writing and speaking.

Accomplished English language arts teachers recognize that early adolescents and young adults who use a nondominant dialect frequently experience anxiety when asked to speak and write according to the more broadly accepted language conventions; students may view complying with this request as a relinquishment of their cultural identity. Teachers therefore proceed sensitively, respecting the integrity and value of their students' home or group languages while modeling and teaching the formal conventions of English. Accomplished teachers may initially focus more on written rather than spoken language when teaching standard conventions. They know when and when not to emphasize error correction to encourage risk taking, promote a positive attitude toward learning, and facilitate students' engagement in classroom discussions. In essence, accomplished English language arts teachers do not try to eradicate dialectal variation from their learning environments; rather, they seek to expand their students' range of communicative competencies. (See Standard VII—Speaking and Listening.)

Accomplished English language arts teachers explain the necessity of reading the situation in which one is communicating, and they model how to select the language that suits the context. For example, a teacher might explain that it would be appropriate to employ formal language when receiving an award from a community group, persuading the school board to change the dress code, or emailing an authority figure. However, it would be acceptable to use less formal English when writing or speaking to family and friends.

Accomplished English language arts teachers expose students to many regional and global variations of English. They seek out texts that demonstrate variations in vocabulary and dialect and analyze how these differences lend authenticity and local color to the text. For example, a teacher might have students explore the way that the language used in the works of Sharon Draper, Junot Díaz, or Willa Cather conveys a sense of place and culture. Accomplished teachers may also explore fictional dialects such as those created for *The Hobbit* or *Star Trek* to examine the stereotypes and character traits that variations in speech can suggest.

Accomplished English language arts teachers discuss the emotional impact of language. For example, teachers help students see how words can cause harm to others, sometimes unintentionally. Accomplished teachers urge students to use language carefully across all contexts, from formal papers to text messages. Teachers help students understand the results, including legal consequences, of the careless or immature use of language. Teachers model for students the use of unbiased language such as gender-neutral terminology and demonstrate how to harness the power of language to effect positive change in the world. Students of accomplished teachers see language as a tool, one that can help them not only communicate fairly, but also

advocate for themselves, for others, and for their beliefs. (See Standard II— Fairness, Equity, and Diversity and Standard XII—Advocacy.)

Accomplished English language arts teachers deliberately point out examples of how and why authors use formal, informal, and inflammatory language, discussing the reasons behind these choices. For example, the characters in *The Outsiders* speak in language that some audiences find objectionable, but an accomplished teacher would sensitively point out that this language is used in the novel to convey character.

From Standard IX: Inquiry

The Nature of Inquiry and Learning

Accomplished English language arts teachers understand that inquiry can be perceived as a disposition, a process, an action, and a tool. Teachers realize that inquiry allows students to use the skills of reading, writing, speaking, listening, and viewing to more fully understand complex ideas in varying contexts. A well-designed inquiry requires students to develop, understand, and express multiple perspectives on texts, topics, and central questions. Although inquiry is ultimately self-guided, accomplished teachers initially facilitate student learning. Teachers delineate possible pathways for investigation and model the inquiry process. They challenge students to probe deeper and uncover multiple viewpoints about an issue.

Accomplished English language arts teachers are aware of the many ways in which inquiry supports student learning in English and the language arts. Teachers know that engaging in inquiry strengthens students' academic dispositions, the tools they use to drive their learning, their process of learning, and their ability to take action as a result of learning. Activities that can promote inquiry include Socratic discussions, online searches, and double-entry journals. These activities by themselves do not ensure inquiry; however, accomplished teachers know how to use practices such as these to develop students' capacity to engage in inquiry.

Accomplished English language arts teachers understand that the inquiry process begins with students analyzing their background knowledge about a subject. Students then ask questions that trigger the need to know and subsequently seek out reliable and relevant sources of information that address those questions. Students explore the sources; recognize assorted viewpoints, problems, and issues; and then synthesize the information. Accomplished teachers convey to their students that inquiry is complex, open-ended, and recursive in nature, and that the results of inquiry should provoke action or shifts in thinking. Accomplished teachers understand that profound inquiry can take time, and within the constraints on instructional time, teachers maximize the opportunities for this endeavor.

Purposes of Inquiry

Accomplished English language arts teachers believe that inquiry serves many purposes. Accomplished teachers use inquiry to instill intellectual passion and cultivate curiosity within students, and to develop the dispositions that lead to lifelong learning.

Teachers know that inquiry can serve personal purposes, such as building a student's self-awareness or leading to individual accomplishment, as well as public purposes, such as solving problems within the community. Inquiry can even serve purposes that are simultaneously personal and public, such as discovering connections between oneself and the world. Accomplished teachers recognize that inquiry allows students to meaningfully question the world, creatively investigate and challenge their assumptions, examine issues in terms of their relation to larger systems of thought, and reflect on the way that thinking can help young people emerge into a global society. Inquiry can be deeply personal and individual or collaborative. (See Standard XI—Collaboration.)

Accomplished English language arts teachers understand that inquiry builds the disposition to evaluate different viewpoints through critical eyes and ears and to see the big picture. Teachers help students use the results of their inquiry to empathize and to find value in what others might find odd, alien, or implausible. An accomplished teacher might lead students through questions that explore the tension between individuality and conformity. For younger students, this exploration might mean discussing the value of being oneself versus following the crowd, whereas for older students, it might involve developing a clearer sense of self and pondering how to contribute to the world. Ultimately, students of accomplished teachers use inquiry to develop self-knowledge, perceiving the personal styles, prejudices, projections, and dispositions that both shape and impede their understanding. Inquiry also helps students develop persistence in trying to clarify confusion and comfort with certain types of ambiguity.

Accomplished English language arts teachers know that teaching inquiry is critical to guiding students to manage multiple viewpoints and sources of information in academic settings. Accomplished teachers show students how to ask questions that lead to various perspectives on a topic. Throughout the inquiry process, teachers engage students in various cognitive processes related to their research, beginning with basic explanations and extending to self-knowledge. Accomplished teachers also use inquiry to lead students to many avenues of expression; students select from multiple modes within language arts to represent their new understandings. However, the ultimate goal of inquiry is always to help students to learn how to ask and answer their own questions.

Accomplished English language arts teachers are aware that inquiry helps students learn to take action. In the classrooms of accomplished teachers, students develop the capacity to explain what they have learned and how they have learned it. Students take a stand on an issue, piece of information, or viewpoint, or frame an explanation, providing thorough support and evidence. Students learn to interpret and convey the results of their thinking, for example, by telling meaningful stories and offering apt translations. They reveal significant historical or personal dimensions of ideas and events and make their research results accessible to their audiences through well-chosen images, anecdotes, analogies, and models. Students learn to adapt and apply the inquiry process to new situations.

<p>Accomplished English language arts teachers realize that inquiry is a tool that helps students examine, organize, manage, and analyze information. They teach students to look for errors and inconsistencies while evaluating sources. They provide ground rules for inquiry and model rigorous habits of mind. They ask students to have open minds; consider other viewpoints; evaluate assumptions; draw conclusions; test hypotheses; determine the validity, reliability, and credibility of sources; and read critically. Accomplished teachers show students that inquiry is a tool that will help them become lifelong learners and critical problem solvers.</p>	
---	--

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the English Language Arts Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EAYA-ELA.pdf>

EXCEPTIONAL NEEDS SPECIALIST (ECYA) <i>Early Childhood through Young Adulthood</i>	NOTES
STANDARD II: Knowledge of Philosophy, History, and Law STANDARD VI: Communication STANDARD VIII: Curriculum and Instruction	
<p>OVERVIEW: (Standard II) Accomplished teachers of students with exceptional needs understand how philosophical, historical, and legal foundations of their field inform the development of effective practice. They draw on this knowledge to organize and design appropriate practices and to ensure that students' rights are protected and respected.</p> <p>(Standard VI) Accomplished teachers recognize the critical nature of communication for students with exceptional needs. They develop and foster communication skills that enable students to access, comprehend, and apply information; acquire knowledge; and develop and maintain interpersonal relationships.</p> <p>(Standard VIII) Accomplished teachers command a core body of knowledge of the disciplines and of specialized curriculum for students with exceptional needs. They draw on this knowledge to establish curricular goals, design instruction, facilitate student learning, and assess student progress.</p>	
<p><i>Standard II: Knowledge of Philosophy, History, and Law</i></p> <p>Accomplished teachers of students with exceptional needs are grounded in the philosophy, history, and laws that provide the basis for effective practice. They know and appreciate the legal rights and responsibilities of students and their families and ensure that the rights of all students are recognized, respected, and protected. They can explain the reasons for instructional choices and the materials, equipment, and resources needed to teach students with exceptional needs.</p> <p>As professionals, accomplished teachers not only know what is right to do but also do what is right. Teachers of students with exceptional needs understand the provisions of the laws pertaining to their students and how they apply to their practice. As their educational practices and philosophy have evolved, however, they have gained greater knowledge and experience, and have come to appreciate and demonstrate the true spirit of the law. Beyond simply knowing and understanding the law, they apply it to enrich their teaching and to enhance meaningful learning for their students. The philosophy guiding the practice of accomplished teachers extends beyond a certain set of educational standards and reflects a commitment to equity and access for all students. Teachers reflect deeply on what they believe, can</p>	

articulate their personal philosophy, share it with others, and infuse it throughout their practice.

Accomplished teachers maintain a strong philosophical foundation grounded in their depth of knowledge about effective teaching practices and student learning and inspired by deep reflection about equity, human rights, and quality of life for students with exceptional needs. Teachers' beliefs derive from their professional preparation, their experience, and their analysis of contemporary research and professional materials.

Teachers have an understanding of the history of their field in the United States and of the federal, state, and local laws and significant court decisions that eliminate discrimination and bias and entitle all students to a free, appropriate public education in learning environments that best serve students' needs. Additionally, teachers are knowledgeable about broad philosophical influences that arose in the twentieth century that promoted an acceptance of exceptionality within the human experience and specified the rights of individuals to participate in and contribute to society. Teachers know that special education laws are rooted in civil rights legislation designed to protect access, participation, and progress in education. They have an appreciation for how the historical struggle of children and adults against segregation and exclusion from mainstream society has formed the basis of their educational practices and has shaped the teacher's role in educating students with exceptional needs, including those who are members of racial and ethnic groups and language minorities.

Accomplished teachers understand that these historical, philosophical, and legal processes have contributed to new assumptions and principles about educating students with exceptional needs, including the idea that all children have the right to be educated in settings with their peers, receive an education appropriate for their educational and developmental needs, and maximize their potential for growth into productive adulthood. Drawing upon their knowledge of history, philosophy, and law, teachers also acknowledge how their individual beliefs about children with exceptionalities affect their practices and their commitment to educating all children in settings that best meet their needs.

These teachers have an understanding of federal, state, and local laws that has led to the development of their field as a discipline and a set of practices. They understand and appreciate the dynamic nature of lawmaking and recognize that changes in laws influence the roles and responsibilities of teachers. Further, they recognize the importance of related education and disability laws that influence educational environments and the range of service options, coordination of services across systems, collaboration among professionals and with families, and transition services. For example, the Individuals with Disabilities Education Improvement Act and the Elementary and Secondary Education Act have drawn national attention to the importance of high-quality teaching of children with exceptional needs and have redefined the standards for preparing and certifying highly qualified teachers. The Americans with Disabilities Act and related laws, for instance, protect the educational

and employment rights of children and adults with exceptional needs. Such legislative decisions signal the need for teachers to be responsive in their practice, while at the same time recognizing the fundamental, enduring principles embedded in the laws. Teachers actively seek information to stay abreast of legal mandates and educational trends in their field. Teachers of students who are gifted, for example, familiarize themselves with district policies and state laws regarding the identification and education of students who are gifted, and advocate effectively for equitable access for and treatment of students. (See Standard XII—Reflective Practice.)

Teachers Are Effective Advocates

Accomplished teachers comply with the laws and understand their advocacy role in safeguarding the due process rights of students and families in decisions about assessment, placement, instruction, and transition. Teachers recognize their responsibility to ensure to the best of their ability that everyone involved in educating students with exceptional needs is informed about legal mandates that protect student and family rights. Within their advocacy role, they may participate in or lead task forces on policies and practices in their field, working not only with colleagues and families but also with community representatives. They are articulate in explaining the specialized instruction for students with exceptional needs and the specialized materials, equipment, and financial resources required to provide instruction. When faced with challenges, teachers pursue creative options, such as collaborative partnerships within the school and with community organizations, universities, and businesses.

Accomplished teachers of students with exceptional needs use their knowledge of law and foundations to enhance the understanding of their peers and related professionals about the philosophy and laws that shape their roles, practices, and collaboration. Teachers advocate for students to have meaningful access to the general curriculum, appropriate learning opportunities, and related activities. In some cases, these teachers challenge the philosophy and educational delivery system of the school, the district, or the service agency and advocate for changes to meet the needs of students and their families. Teachers may collaborate with other professionals within the school, such as the psychologist, counselor, or social worker, to implement positive behavioral and learning interventions. A teacher may need to consider the full impact of a child with intensive needs in the general education setting and advocate for appropriate supports and resources within that setting or for a review of the appropriateness of the placement. Teachers might collaborate with general and special education teachers and career-vocational educators to develop combined academic and career-vocational programs to prepare students for postsecondary transition. In such situations, teachers consistently and effectively work to resolve disagreements, bring about necessary changes, and maintain or expand productive and essential programs and services. (See Standard XI—Contributing to the Profession and to Education through Collaboration.)

Teachers Exemplify High Ethical Ideals

The practice of accomplished teachers is consistent with the codes of ethics and standards of their profession, including reflecting on the ethical dimensions of decisions regarding confidentiality; placement; distribution of resources; instructional practices; and relationships with students, families, and other professionals. They are fully conversant with laws, regulations, and policies protecting students' and families' rights of privacy, and they are meticulous in controlling access to confidential information. Furthermore, they ensure that colleagues and families understand and observe protocols of confidentiality. Teachers verify that services designed to benefit students and families adhere to ethical standards.

Standard VI: Communication**Teachers Understand Language Acquisition and Development**

Accomplished teachers know that students acquire language through the exchange of meaningful messages, so teachers provide students with multiple opportunities to practice language with one another and with others in school and in the community. Teachers understand that authentic communication can take place anywhere in many different modes and that the true essence of communication is the exchange of meaningful information between partners regardless of the complexity of the messages. Teachers also understand that for students to succeed in language learning, instructional contexts must be significant to students, who benefit when they see themselves as partners in their language education. Some students, for instance, might be inspired to learn technical vocabulary related to a particular field. The teacher of a student with severe communication disorders, for example, might help the student understand the concept that apple means snack or juice box means juice, and then encourage the student to point to an apple or to a juice box to indicate hunger or thirst, respectively. Accomplished teachers recognize that students' needs guide effective language learning, which occurs when students perceive the personal importance of the instruction.

Accomplished teachers understand language variations and speech and language disabilities. They know that language is learned through approximation of standard usages and that making mistakes is an integral part of language learning. Teachers design communication opportunities in which experimentation, failure to communicate successfully, and success teach students to help themselves take risks in their language learning, strengthen their ability to repair their communication, and develop meaningful interactive exchanges. Teachers support students' use of invented spellings in early writing, for instance, but know when to provide constructive feedback. A teacher might reinforce a student's talent and interest in public speaking, for example, by filming a debate or mock trial and then critiquing the student's presentation. Accomplished teachers use a wide range of response activities for the purpose of language assessment, such as dramatic productions, stories, and communication that occurs naturally in a variety of settings. By offering a

selection of choices, teachers provide students opportunities to improve and expand their language abilities.

To foster language development teachers provide students with messages that are scaffolded so that learners can extract meaning from them. Employing appropriate complexity for the developmental needs of each student, teachers use graphic organizers, visual representations, and concrete objects to clarify language that students encounter in textbooks and other learning materials and to clarify language used to deliver instruction. Teachers know that supporting language instruction in these ways is especially important for students acquiring a new language or dialect.

Teachers skillfully observe their students' progress in developing language and literacy skills, determine what students need to learn next, and design special interventions as necessary. Teachers understand that communication involves a wide variety of factors and conditions relating to thought, speech, language, and hearing. They recognize both overt and subtle communicative breakdowns and skillfully provide appropriate instructional support. For example, an accomplished teacher would perceive that a student who responds, "Ding, Ding, Ding, Ding, you are free to move about the cabin" when asked to identify something that flies has answered correctly because the student is expressing knowledge in the correct context. Immediate instructional support might include helping the student access the word airplane by providing the initial sound or a selection of words from which to choose. Long-term instructional support might include having the student practice describing objects by their shape, category, and function.

As careful listeners and observers, teachers identify communication delays, disorders, and differences and respond to them as they occur, adjusting their own language as appropriate to ensure student comprehension. In evaluating language acquisition problems, teachers consider a range of language-learning issues, such as prior exposure to curriculum, cognitive and learning characteristics, and academic and experiential backgrounds. Teachers recognize that individuals with communication disorders often struggle with language at its most basic level and sometimes have difficulty making themselves understood clearly. A student may state that someone buttered him, for example, when he means that he has been bothered. Students may have difficulty composing their thoughts and ideas or understanding what others say. They may be able to imitate words and phrases but not use words properly. For instance, when questioned about a disruptive incident, a student who has difficulty with expressive language may say that she pushed a friend, when in fact, she was pushed. Another student may talk about personal home situations or private bodily functions without understanding how doing so transgresses norms and expectations for appropriate communication in particular social settings. Another student may not know the rules of polite conversation and interrupt at inappropriate times or change topics abruptly.

Accomplished teachers understand the need to differentiate between communication needs based on language or dialectical differences and those that are exceptionality-based. They recognize the numerous challenges faced by students who

do not speak English as their primary language or who speak dialects of English and ensure that all students are given every opportunity to succeed. Teachers know that regional language patterns and dialectical variations could be mistakenly interpreted as speech and language delays or deficiencies. In some instances, these perceived delays or deficiencies trigger referrals for special services when they are unnecessary. Spanish speakers, for example, may have difficulty consistently producing the [j] or *sh* sound in English because it does not occur in Spanish, just as some English speakers have difficulty trilling the [rr] sound in Spanish words like *perro* or *burro*.

Accomplished teachers also know that some errors that on the surface appear to be reading miscues, such as reversing the [k] and [s] sounds in *ask*, may actually reflect dialect differences. Teachers collaborate with specialists and professional colleagues, including bilingual educators and English as a new language specialists, to evaluate students who are linguistically diverse and determine whether they need language support services, special education services, or both. In addition, accomplished teachers develop collaborative assessment tools to accurately evaluate students with linguistic diversity, understanding that students are best assessed and served within and across many contexts and with multiple communication partners.

Teachers are sensitive to cultural influences on communication related to student learning, both academically and socially. They understand that different cultures have different styles of interaction in terms of preferred language or mode of communication, body language, voice tone and intensity, attitudes about personal space, and role perceptions. Furthermore, teachers acknowledge and respect differences in students' life experiences, world views, cultures, mores, and values. Many people who are deaf, for example, regard American Sign Language as an important part of their culture and wish to preserve it for future generations. The teacher of a student from a Mexican background, for example, who alters the student's word choice from graveyard to park in a story about picnicking in a cemetery on *Día de los Muertos* (Day of the Dead) has not honored the student's cultural heritage if this is the way her family observes this holiday.

Accomplished teachers understand that all behavior is a form of communication and that inappropriate behavior is often a response to communication breakdowns. For some students, powerful emotions affect their communication skills and create a variety of communication barriers. Teachers comprehend the complex relationships between communication and emotion, and they demonstrate patience and tolerance in teaching and assessing expectations for communication. They understand and anticipate the emotional responses triggered by aspects of communication, such as tone, voice volume, and word choice. They listen. They guide students to express themselves accurately and appropriately.

Teachers can differentiate between aspects of students' communication that require language-related interventions and those that require behavior-based interventions. They also acknowledge the necessity, at times, for explicit instruction on expectations and behaviors to assist students in developing a repertoire of interaction skills. A teacher whose student gains attention by yelling or hitting, for example, knows how to replace that communication system with more appropriate behavior to advance

the student's educational and social development. Teachers interpret the real message behind the behavior being exhibited. For a student with autism spectrum disorder whose communication breakdowns occur each time he goes to breakfast but never at lunch, for example, an accomplished teacher would investigate whether the behavior results from several different factors dealing with food choice, peer relationships, time of day, or communication partners. After gathering and assessing meaningful data to determine the nature of the communication events, the teacher would intervene accordingly to create and implement appropriate communication exchanges, collaborating with the student, staff, and peers involved. Accomplished teachers regard a student's behavior as a source of information and insight into the child's communication, not as a problem to be corrected.

Teachers understand students' behavior in relation to their communication skills and introduce strategies that enable students to gain insight into their behavior and relieve their frustrations in constructive ways. By giving students opportunities to discuss their opinions and ideas and to share personal reflections and beliefs, for instance, teachers help them communicate their intentions clearly so what they communicate is acceptable to others. (See Standard VII—Social Development and Behavior and Standard IX—Learning Environment.)

Teachers Use Unique Strategies to Develop Communication Skills

Teachers use learning strategies appropriate to the language development levels and communication needs of all their students. For some students, teachers might obtain augmentative and assistive technology, special equipment, or electronic devices, such as screen readers and alternative keyboards. When designing electronically-mediated instruction, accomplished teachers consider students' communication needs as well as the developmental, mental, and physical abilities required to use communication devices effectively. For example, technology that reads and interprets facial expressions might help a student with autism spectrum disorder understand others' emotions and respond appropriately. To assist students who are mildly disabled frame responses to a language arts lesson, a teacher might utilize interactive technology that allows the immediate viewing of student feedback. As necessary, teachers collaborate with speech and language experts concerning students' communication needs. Students with Moderate to Severe Communication Disorders Teachers of students with moderate to severe communication disorders know that for students to be proficient in their chosen mode of communication, it must be understandable with many different partners in several environments. Teachers are innovative in addressing students' communication difficulties and design meaningful, developmentally appropriate language learning contexts tailored to students' needs. The solutions teachers derive to address students' communication difficulties demonstrate flexibilities and offer varied opportunities to gain and exchange knowledge and information. For a student with severe articulation problems, for example, an accomplished teacher might construct a communication board featuring favorite objects or pictures representing the student's most common words and phrases and most relevant and important needs. These objects, such as a drinking cup or special spoon, would have rich meaning and functional significance for the

student and, once incorporated into the student's school day, might inspire communication with partners.

Accomplished teachers employ strategies and methods to enable each student to learn and use both receptive and expressive communication skills. They are familiar with augmentative and assistive communication devices and, when appropriate, evaluate and recommend specific equipment for individual students. Teachers, for instance, can successfully train a nonverbal student with multiple exceptionalities to use a portable, talking communications device to maximize the student's receptive and expressive capabilities. Teachers help students develop the highest level of communication skills possible, whether written, verbal, gestural, pictorial, or aided through a communication device.

Accomplished teachers recognize that functional communication skills are essential for students with moderate to severe communication disorders, so they include in their language arts instruction a special focus on functional reading and writing, such as decoding bus schedules and street signs and compiling shopping lists; following written directions; developing listening skills; and acquiring a basic vocabulary that allows students to express themselves, comprehend safety warnings, and understand others at home and in the community. They do so in a manner that is age appropriate and sensitive to students' level of competence to increase the prospects that students can reach their full potential.

Students with Visual Impairments

Accomplished teachers of students who are blind and visually impaired are knowledgeable about the broad spectrum of specialized and unique communication skills for their students and multiple strategies to implement specialized communication skills. They understand the critical need for their students to be proficient in a variety of communication skills and tools to access and participate in all teaching and learning activities in their education curricula and in all school environments. These unique communication skills may include reading and writing braille, interpreting tactile graphics, using assistive technology, listening, and using low vision devices to read and write print. Teachers ensure that students have the specialized and unique knowledge and skills to communicate efficiently and independently in all settings.

Teachers ensure that students are actively engaged in communication activities in their primary learning medium at the same level as their sighted peers, especially if braille is needed. If a student reads and writes in braille, the teacher provides instruction so the student is knowledgeable in all braille codes, such as literary, Nemeth, music, and computer and tactile graphics. They teach students to use a variety of technology tools and equipment for braille and speech access for communication, such as braille writers (both manual and electronic), braille note-takers, refreshable braille displays, braille translation software, speech screen readers, and digital players. A teacher, for example, might instruct a student who reads and writes in braille at the middle school level how to access all books and

related curriculum materials in braille and tactile formats. For this student, the teacher would ensure that science and social studies materials are in braille and tactile graphics and that the student has the appropriate assistive technology tools. The teacher would make available tools such as a braille note-taker that translates from braille to print and print to braille and a laptop computer with braille access so the student can participate fully in the classroom. For a student who knows music braille code, the teacher might arrange access to braille music materials and tools for reading and creating braille music for the student to participate in choir and band. The teacher provides instruction so the student has the braille literacy skills to participate independently and efficiently in teaching and learning activities.

For a student who reads and writes in print and uses low vision devices, the teacher provides instruction so the student is knowledgeable about how to access print information for near and distance visual tasks. Teachers instruct students in using a variety of low vision devices to engage in all teaching and learning activities in all environments. A teacher, for example, might instruct a first grade student in using a magnifier to assist with map skills during geography lessons. The teacher might also provide a monocular telescope so the student can independently read letters on the whiteboard at the front of the room during a spelling lesson or read the menu posted at lunchtime in the cafeteria.

If a student communicates using tactile communication strategies, the teacher collaborates with team members to ensure appropriate and meaningful materials are created and provided in multiple literacy modes, such as tangible symbols, tactile symbols, and braille. The teacher provides instruction in the skills necessary to interpret tactile symbols and ensures they are used in all teaching and learning activities. A teacher, for example, would show a student in early childhood how to find the tactile symbol with a miniature wheel to communicate with the classroom teacher that it is time to get on the bus to go home, or to use the tactile symbol with a miniature cane to communicate that it is time for mobility lessons with the orientation and mobility specialist.

To teach and provide specialized communications skills, teachers have access to a wide array of resources and entities. They engage in a variety of evaluation activities to identify appropriate communication skills, work collaboratively with team members to enable students to communicate effectively in all environments, and monitor student performance to ensure success.

Students Who Are Deaf or Hard of Hearing

Teachers know that language and communication access and development are central to the well-being and to the learning of students who are deaf or hard of hearing. Teachers are fluent in the languages or modes of communication students might use, such as American Sign Language, cued speech, Signed Exact English, or Pidgin. In working with students and families to select appropriate modes of instruction, teachers take account of the controversies surrounding communication methodologies and philosophies and can articulate the arguments for and against

each philosophy as they relate to the home and community circumstances of each student.

Teachers are familiar with current technological devices specifically related to the communication needs of students who are deaf or hard of hearing. They are knowledgeable about the benefits and drawbacks to cochlear implants and can provide families a variety of resources regarding this procedure. Teachers are familiar with varied forms of assistive technology, such as augmentative devices that change voice into text or voice and text into sign language; assistive listening devices, such as FM radio signals, infrared lights, and induction loop systems; visual assistive devices, such as video phones, video relay services, and visual PA systems; and text-driven electronic programs.

Teachers understand the urgency of early intervention for students who are deaf or hard of hearing, since many enter school with severe language delays. To close this gap, teachers might collaborate with general education teachers, families, peer helpers, audiologists, and other professionals to enact a number of teaching and learning strategies, such as preparing graphic organizers matched to students' developmental levels, captioning materials with helpful signs or symbols, incorporating lessons depicting familiar objects or activities paired with appropriate signs, arranging for field trips rich with multiple vocabulary opportunities, or designing test-taking accommodations.

Accomplished teachers can predict areas that will be difficult for students who are deaf and hard of hearing to grasp and develop strategies to meet these needs. In teaching from a text, for example, a teacher might scan the text to identify clusters—phrases that require translation into American Sign Language—and teach those clusters or emphasize them if they have already been taught.

For students who are deaf or hard of hearing, teachers understand the importance of managing instructional environments to ensure equitable access to learning opportunities. By managing ambient noise, incorporating group work or cooperative learning, relying on interpreters, using assistive devices and other technological supports, or implementing other effective strategies, teachers create appropriate contexts that support auditory and visual access for students.

Accomplished teachers of students who are deaf or hard of hearing have a deep knowledge of human speech and linguistics, including phonology, morphology, syntax, semantics, and pragmatic communication; the anatomy and physiology of the human auditory system; acoustics and the physics of sound; theories of primary and secondary language acquisition both in children who are hearing and in those who are deaf or hard of hearing; and theories of visual learning, especially spatial communication and instructional and memory aids (visual mnemonics).

Teachers Collaborate with General Educators, Related Service Providers, and Others to Facilitate Student Language Development

Accomplished teachers understand that language development is a shared responsibility of all who provide services to students with exceptional needs, so they collaborate with general education teachers, bilingual specialists, speech and language therapists, families, and others to determine the nature of a student's communicative abilities and initiate appropriate instructional strategies. Teachers know that with proper professional development, allocation of resources, and coordination of services, students who have communication difficulties or who are linguistically diverse can successfully access general education curriculum and misidentification can be reduced.

Standard VIII: Curriculum and Instruction

Accomplished teachers use their command of curriculum and instruction, as well as their knowledge of child development and of exceptionalities, to make sound curricular decisions for their students. They consider the whole student, including factors that affect learning, as they design educational plans and services; as they select, shape, modify, and adapt curriculum and instruction; and as they assess student progress. As lifelong learners, teachers continually extend their knowledge in various areas of curriculum and instruction to meet the individual needs of their students with exceptionalities.

The work of accomplished teachers of students with exceptional needs varies according to the settings in which teachers instruct and the roles they serve. They may be a student's core subject teacher, or they may partner with the general education teacher as co-teacher, consulting teacher, or itinerant or facilitative teacher. For example, a secondary teacher in a residential school for students with emotional and behavioral challenges may provide instruction in English and literature while a colleague takes the lead in teaching mathematics and science. Teachers of students with emotional and behavioral challenges who teach mathematics in a co-teaching model have knowledge of the major ideas, theories, and concepts that characterize the mathematics studies curriculum. Itinerant teachers of students with visual impairments who consult with the general education social studies teachers, for example, have knowledge of the social studies state standards and expected student outcomes in this subject. Teachers collaborate with colleagues to establish ambitious yet realistic learning goals for students and to select appropriate curriculum options and instructional strategies to meet those goals and to challenge students in areas of their specific talents.

Regardless of their role or function, teachers of students with exceptional needs have knowledge of federal regulations, state standards, the general education curriculum, and a range of curriculum accommodations and modifications specific to students with exceptionalities. Moreover, accomplished teachers possess specific knowledge of the expanded curriculum—including social and emotional skills, life skills, health

and leisure education, and transition and career development—and how to individualize curriculum to meet the needs of students with exceptionalities.

Because the entry-level skills of each student may differ, teachers know that students do not all achieve the same goals at the same time and that they do not follow the same path to success. Accomplished teachers therefore individualize instruction for all diverse learners, providing multiple ways to engage students and enable them to demonstrate what they know. A teacher, for instance, may use a text to speech program to help a student understand a difficult piece of writing and, by doing so, create a learning opportunity for the student that might not otherwise occur. A teacher might initiate independent study and independent projects for high-performing students. By tailoring the content and process of learning to students' needs, teachers ensure that students access the entire curriculum and that curricular materials and instruction serve all students.

Accomplished teachers who work with students who are deaf, hard of hearing, blind, or visually impaired are experts at knowing and using unique tools and strategies to meet the needs of these students.

Teachers Are Grounded in the Academic Core Curriculum

Accomplished teachers have knowledge of the core curriculum including English language arts, social studies and history, mathematics, science, the arts, health, physical education, and leisure. Teachers recognize that building competence in the ideas, themes, concepts, and facts comprising the core curriculum is an essential foundation that all students need. Accomplished teachers also know that the core components of any curriculum hinge on literacy and numeracy. Reflecting their belief that literacy and numeracy are foundational for success in school and in life, teachers ensure that these skills are integrated across the curriculum. Furthermore, teachers understand that core components may need to be expanded depending on each student's needs and exceptionalities.

Literacy

Accomplished teachers understand the nature of literacy. They are aware that the field entails a synthesis of knowledge of literacy acquisition and language development, as well as current literature on listening and speaking and the conventions of oral communication; on the reading process and how students learn to read, as well as the texts students encounter; on the writing process and how students learn to write; and on viewing and the conventions of visual communication in various media. Accomplished teachers can articulate this knowledge and use it to develop sound instruction for their students.

Teachers create rich environments for developing literacy skills by linking what students already know and are curious about with instruction. Teachers understand that developing language skills includes the ability to reflect on language, the development of a rich vocabulary, and the ability to communicate and understand

complex thoughts. In all instructional settings, teachers build on students' home languages and dialects, and structure learning opportunities to take advantage of students' prior literacy experiences. Teachers promote and encourage the development of language and literacy in English as well as in the languages spoken in the home and community. Knowing that oral language development supports the development of other literacy skills for many students, teachers may encourage play with sounds and words through rhymes, chants, and songs. Teachers skillfully offer suggestions to students about how they can improve their learning and do so without slowing the growth of students' expressive abilities and their desire to continue learning.

Accomplished teachers know how to help students listen and speak to share their ideas and feelings. Teachers know that listening involves receiving, understanding, analyzing, evaluating, and reacting to sounds and messages. They are adept at helping students understand that listening is vital to communication and learning processes. Accomplished teachers know that effective speaking involves factors, such as fluency, clarity, and awareness of audience, purpose, and context. They recognize that an understanding of the interrelatedness of speaking and listening as well as the interpretation of nonverbal skills—such as facial expressions—is essential to clear communication. Acknowledging that each person speaks what is, in effect, a personal dialect reflective of regional upbringing, ethnicity, occupation, age, and socioeconomic class, teachers accept the diversity of language forms of their students. They build on students' languages and dialects and teach a shared school language as they model effective communication. Additionally, teachers of students who are deaf or hard of hearing may model American Sign Language.

Accomplished teachers know how students learn to read. They know the processes, skills, and strategies that students at various developmental levels need to decode, comprehend, analyze, and evaluate texts. They therefore design appropriate instruction for students to understand patterns of phoneme-grapheme correspondences, syntax, and semantics, while also providing a wide variety of texts to prepare them to be fluent, lifelong readers. Teachers understand that reading builds on and extends language skills, including the ability to reflect on language, develop a rich vocabulary, and communicate and understand complex thoughts through language. Teachers strive to introduce students to the power of literacy and the joy of books while ensuring that all students acquire the foundational knowledge and dispositions for reading success.

Accomplished teachers know that writing entails complex and challenging processes through which students rarely move in a linear manner. Recognizing the key role writing plays in achieving successful communication and knowing that the best writing occurs in meaningful contexts, teachers craft writing instruction to match students' interests. They understand that writing takes many forms and has many applications and that writers draw upon a wide array of sources. Accomplished teachers know the importance of purpose and audience. They are familiar with the conventions of good writing. They know the importance of developing fine-motor skills for some students and of using models to teach effective writing. Understanding

that writing grows from and supports the development of other literacy skills, teachers weave language skills instruction throughout their teaching of writing.

Accomplished teachers recognize that visual communication is vital to achieving literacy in contemporary society. They understand the importance of being able to analyze visual language, interpret graphic representations, interpret and evaluate media messages, and communicate through visual media. They know the advantages and limitations of various media and how to teach students to develop their visual literacy. Teachers also understand that students who depend primarily on visual communication may require intensive, highly specialized reading instruction.

Accomplished teachers of students with exceptional needs use their knowledge of language and literacy development to address students' needs along a continuum of increasing complexity, from fundamental skills to critical and creative thinking. Building on their own expertise in devising literacy instruction, teachers assess students' responses and design activities that continually advance students from current skills and capacities, modifying tasks and conditions as necessary.

Numeracy

Accomplished teachers comprehend the nature of numeracy. They know the foundations of the number system and the importance of using patterns to make generalizations and develop mathematical understandings as well as the central concepts and principles of important mathematical domains. Teachers are familiar with the fundamental processes of mathematical thinking, exploration, representation, modeling, conjecture, inference, interpretation, and analysis in addition to the importance of proof and formal reasoning. Teachers understand how students develop numeracy and mathematics concepts and understandings, and they use this knowledge to design and select curriculum and instructional materials, choose assessment and teaching methods, frame discussions, and respond to students. They can explain their teaching strategies in terms of the concepts, procedures, processes, and ideas that define number systems and number sense, geometry, measurement, statistics, probability, and algebra (patterns and functions).

Teachers create many opportunities for students to construct their own concepts and understandings of numbers and ideas in mathematics through open-ended work in a wide array of situations. To demonstrate concepts and provide students opportunities for exploration in mathematics, teachers select and create a variety of resources, materials, and activities, such as manipulatives, textbooks, charts, newspapers, calculators, computer software, puzzles, and games. They often arrange for students to work together, encouraging them to exchange ideas and appreciate varied approaches to problem solving. They encourage students to investigate alternate strategies and derive creative solutions. Teachers ask questions frequently to clarify how students perceive reasoning and thinking in mathematics. They challenge students to generate their own questions and propose their own solutions to problems, which they then explain or defend.

Accomplished teachers help students apply numeracy concepts and mathematics skills to their environments at home and in school. They routinely integrate mathematics where it naturally fits with subject areas across the curriculum. Teachers might employ or refer to mathematics during science experiments, literature lessons, cooking and snack times, sports, games, and field trips so that students see knowledge of mathematics as fundamentally important in numerous activities, experiences, and phenomena. For example, teachers might help students look for and recognize mathematical patterns by leading students to discover the geometrical symmetry of leaf structures during a nature walk.

Accomplished teachers design instruction to meet students' needs while deepening students' understanding of, and dispositions toward, numeracy and mathematics. Teachers draw on their knowledge of the numeracy and mathematics curriculum to plan activities that move students from basic skills to complex skills, and ultimately to the understanding and application of concepts. Teachers foster students' abstract thinking and their ability to communicate mathematically, for instance, to recognize structures within possibly confusing information, to interpret data, and to analyze strategies useful in defining a range of problems.

Teachers Expand the Core Curriculum to Ensure the Success of Students with Exceptional Needs

Accomplished teachers recognize that the general education curriculum may not meet all the needs of students with exceptional needs. Teachers therefore have a deep knowledge of the expanded curricula for students with exceptionalities, including curricula that address social and emotional development; life skills and functional academics; health, physical education, and leisure; and transition and career development. They know how to individualize the curriculum for each student and how to integrate skill development across disciplines, contexts, and settings.

Importance of Social Interaction

Accomplished teachers understand that effective social interactions are essential to academic success and to communicative, cognitive, and affective development, so teachers connect curriculum to the teaching of social skills. Teachers recognize that physical, intellectual, ethical, and social development are interdependent and that exceptionalities often affect each of these domains. Accomplished teachers infuse throughout the curriculum social and emotional elements that instruct students in resolving problems effectively; communicating effectively; learning to exercise self-control; understanding motivations and reactions; managing emotions in a variety of settings; and appreciating and respecting others' viewpoints. Teachers promote the development of positive character traits, including honesty, tolerance, loyalty, responsibility, and perseverance. (See Standard VII—Social Development and Behavior.)

Life Skills Important for Independent Functioning

Teachers are knowledgeable about the complex curriculum in the area of life skills, from personal care, time management, problem solving, and decision making to functional academics in the areas of reading and writing, mathematics, and communication. Teachers understand that the life skills curriculum is equal in value to the academic curriculum and that both curricula are mutually interdependent in helping prepare students to lead satisfying and successful lives.

Teachers ensure that appropriate portions of a student's education involve instruction and application of life skills and seamlessly blend the curriculum of daily living skills into real life contexts meaningful to each student's unique needs. Teachers confirm that the curriculum includes all environments where students function, such as school, home, work, and community, and use these contexts to teach life skills. A teacher, for instance, might provide instruction in time management in the context of its importance for success in the workplace. Based on the assessment of individual needs, the teacher might instruct a student in how to develop a schedule and daily routine and monitor the student's ability to do so. Skills such as getting to work on time, catching the bus, working the appropriate hours, and preparing for the next day would be applied to the work setting.

To help a student develop self-determination, an attribute crucial to success in all environments, an accomplished teacher begins with high expectations and a clear understanding of the student's long-term goals and level of independence. The teacher might fashion a lesson in which the student role-plays a scenario where choices must be made. An opportunity to act out the results of positive experiences resulting from appropriate choices may enhance the student's ability to visualize success in personal actions. Knowing that achievement motivates students to strive to do their best, teachers might extend opportunities for success by recommending that successful instructional strategies be implemented across contexts, such as the school, home, or workplace. For example, after a teacher of a student who uses augmentative communication tools and strategies instructs the student in how to use various tools and strategies, the teacher might allow the student to select a mode of communication even if that choice is not the most technologically advanced available. The teacher skillfully guides the student to apply the augmentative communication device and strategies in the community, ultimately teaching the importance of advocating for and monitoring oneself.

Teachers recognize the personal nature of providing services to meet individual needs of students during life skills instruction and are adept at respecting students while maintaining appropriate boundaries and upholding students' dignity. Teachers recognize, for example, that personal hygiene and self-monitoring of one's appearance are important to acceptance by one's peers. Teachers know how to instruct students in routine personal hygiene skills, such as washing their hands, brushing their teeth, dressing, and combing their hair. They teach students self-monitoring strategies while allowing students some latitude in performing these functions. Teachers respect students' choices even if the attire chosen or the order in

which tasks are performed does not exactly fulfill the instructions given. Accomplished teachers focus on the importance of completing tasks independently and respecting students' personal dignity, not on prescriptions for performing tasks.

Health, Physical Education, and Leisure

Teachers understand that a sound school health program is comprehensive in nature, focusing on students' physical, mental, and social well-being. They create opportunities for students to develop and practice skills and knowledge that contribute to good health in each of these domains. They also understand the foundations of good health, including the structure and function of the body and its systems and the importance of developing lifetime habits of physical fitness and sound nutrition. Drawing on this knowledge, they help students understand the dangers of diseases and the benefits of a healthful lifestyle and the activities that contribute to it.

On their own or in cooperation with specialists, teachers plan, organize, and carry out programs in health education that reinforce the major concepts, ideas, and actions that contribute to a healthy lifestyle and that help students learn about nutrition, their bodies, germs and viruses, and substance abuse. They are alert to major health issues concerning students with exceptional needs and address such issues sensitively and in a developmentally appropriate manner, recognizing that some students mature physically before they mature emotionally and socially.

Accomplished teachers are familiar with principles of motor development and exercise science and understand how to apply this knowledge in developing physical education activities appropriate for students with exceptionalities. They design instruction to accommodate the intellectual abilities and medical conditions of their students, taking time to teach the rules of an activity or game and incorporating sound strategies for risk management and safety. They make wise use of appropriate assistive devices, such as wheelchairs, adapted seating devices, and handrails, to enhance students' participation in physical education.

In addition, teachers understand that appropriate and stimulating play activities and interests sharpen students' mental and physical skills, build self-confidence, and improve interactions with others. Realizing that participation at any level is important, teachers work with city and community recreation providers and private organizations to ensure greater access to recreational facilities and to develop and support leisure and recreational opportunities for students with exceptional needs. Teachers are familiar with a broad array of school and community recreation opportunities, and they know how to access these options and modify them in response to a student's specific cognitive and physical abilities. Drawing on this knowledge and their familiarity with students' interests and aspirations, teachers help students select appropriate activities and games that provide opportunities for success, improve self-image, and foster independence. For some students, this means active participation and competition in a variety of activities; for others, it means participation in an individualized recreation program. Whatever the

activity—whether group or individual, participatory or spectator, physical or mental—teachers assist students in mastering the skills and concepts necessary to enable them to participate fully and to achieve long-term independence and satisfaction.

Student Transitions and Career Development

Accomplished teachers are knowledgeable about the multiple, significant transition points in the life of a child—from home to school, across school levels, and from high school to employment and post-secondary education. They understand the needs of students during these transitions and the importance of preparing them for the challenges of adjustment to new settings, new relationships with peers and adults, and increased expectations for independence. Teachers are sensitive to the concerns of families and the changing relationships that occur at each level. They communicate with families and support their participation in transition planning at each stage, helping family members to understand that their own participation changes along the developmental path and that as students mature, their participation and decision making take on a more significant role.

Accomplished teachers understand the central importance of transition planning as a unifying framework to identify students' postsecondary goals and create programs of study and support services designed to achieve those goals. Such services include school-based and community-based services; career assessment; career-technical, job training, and placement services; vocational rehabilitation services; and transportation. Accomplished teachers are familiar with a broad range of resources available in the community and, with an awareness of students' individual needs, strengths, interests, and goals, they match students and families with appropriate services.

Transition in the Early Years

Accomplished teachers understand that transition is a progressive developmental process toward adult independence that begins during children's early years. They assess students' and families' needs, strengths, and preferences and collaborate with them in developing transition objectives. Teachers inform families about and link them with day care, early intervention programs, preschool and elementary programs, and services, such as therapy or transportation. Accomplished teachers recognize the significance of the critical passage from the family context to formal schooling and are sensitive to the concerns of families as their children enter the school setting.

As students move from elementary to middle school and then from middle to high school, accomplished teachers recognize students' changing transition needs. For example, students transitioning from elementary to middle school may encounter numerous teachers, varying schedules, and complex settings. A student moving into high school from middle school may confront the responsibilities of increased self-advocacy and independence. In collaboration with families and colleagues,

teachers ensure that all transitions are successful. Teachers organize learning activities to help students acquire and develop work habits and social skills and to provide opportunities for students to become familiar with various occupations and career options. For example, teachers teach students to work in groups; solve problems and resolve conflicts; follow routines; and understand the importance of task completion, dependability, and responsibility. They link instruction with real-life experiences so that students may explore their own career interests. They may set up learning centers where students can play store and perform a variety of jobs—from butcher, to stocker, to cashier, to manager—or they may have students organize a food drive for a homeless shelter. For a student who is fascinated by fish and turtles, the teacher may design lessons that teach about marine life through literature, art, and real-life experiences. The teacher may invite workers from the local aquarium to talk to the class about the feeding and caring of marine animals and skills needed to work as an aquarist.

Transition to Middle Years and Young Adulthood

Accomplished teachers know the central importance of transition planning for students whether their postsecondary plans include two- or four-year colleges, technical schools, apprenticeship programs, employment, or some combination of these. They design programs of study that provide choices and diverse opportunities. The general curriculum therefore includes options that integrate academic and career or technical elements to a variety of settings, from school to work or community. For example, teachers might design mathematics, reading, or writing tasks that include taking measurements for materials students purchase during a site visit to a building supply store.

Accomplished teachers have a broad knowledge and understanding of the social skills, attitudes, communication needs, and work habits required for success in career-technical and community-based work experience programs and know how to infuse these skills into the curriculum. They might coach students, for instance, on how to ask for assistance from the work-site supervisor. Teachers use role-play so students learn to advocate for support services they may need.

Teachers focus career-technical instruction on functional work skills, such as maintaining excellent attendance, managing time, dressing appropriately, working productively with co-workers, interacting appropriately with customers and supervisors, and getting to and from the job safely and on time. They develop students' travel skills and teach them about job performance and evaluations. They also conduct analyses to determine the skills and vocabulary students will need to perform jobs and tasks outside the school setting. To assist students in finding employment to match their strengths and interests, teachers work with business and community agencies to locate work sites that welcome all applicants.

To prepare students to participate in the transition process, accomplished teachers imbue the broader curriculum with self-advocacy and self-determination curricular elements in a variety of ways. A teacher might explore the theme of

self-determination through the exploration of a character in a novel or short story. A teacher might use a small group process to discuss self-advocacy with students who are in job apprenticeships in the community.

Teachers Differentiate Instruction Based on Students' Strengths and Needs

Accomplished teachers differentiate instruction to engage all students with exceptionalities at appropriate developmental levels. They are flexible in setting expectations, designating goals, adjusting curriculum, seeking new resources, determining instructional strategies and teaching methods, structuring activities, and designing assessments. They try several approaches and observe and document results to identify which strategies work best, which approaches make students feel most comfortable, and which sustain students' growth as learners and inspire them to achieve success. Teachers analyze the sources of individual student's learning strengths and needs and identify appropriate curricular adaptations and intervention strategies. These findings do not lead to a single prescription for each student, but are important information as teachers decide on the right combination of learning opportunities for their students in both general education and in programs for students with exceptionalities.

Accomplished teachers prepare students for success in many endeavors by developing their capacity for critical thought. Teachers involve students in learning activities and tasks designed to strengthen their cognitive skills—thinking, learning, problem solving, organizational, and study skills—and their ability to think inductively and deductively. They plan for instruction that deepens and becomes more challenging as students develop, gain skills, and mature. As students explore important issues, accomplished teachers anticipate students' confusions and misconceptions, act to avoid them, clarify them when they do occur, or take advantage of their potential to illuminate important concepts.

By introducing multisensory activities teachers stimulate abstract, creative thinking and inspire students to combine ideas, themes, and knowledge from varied subject areas. A sidewalk art festival in which students draw chalk pictures of characters and events from a favorite book, for example, might permit students to confirm their understanding of curriculum content while exhibiting their own imaginative interpretations in personal artwork. To broaden students' awareness of civic responsibility and to reinforce expository writing skills, for instance, students might be asked to listen to newscasts or read the newspaper to identify topics of personal relevance and then write persuasive letters to appropriate authorities arguing a particular point of view.

Accomplished teachers engage students in inquiry-based activities that appeal to students' varied knowledge, interests, experiences, and skills and involve issues and questions often approached from cross-disciplinary viewpoints. They provide students with open-ended learning opportunities to motivate students to explore the breadth and depth of topics as they pose questions, examine alternatives, and draw new conclusions. Teachers may employ cooperative-group work or whole-class

discussion to strengthen creative thinking and open-mindedness. They might prompt students to investigate an issue like global warming from the differing perspectives of a meteorologist and an economist. They devise opportunities for students to understand the universal relevance of certain themes. A responsible discussion of racism, for example, might follow after the class reads a book or watches a video that addresses this topic. Teachers understand the importance of developing students' abilities to consider concepts, ideas, and relationships from multiple perspectives and beyond traditional disciplinary boundaries.

Accomplished teachers differentiate instruction and implement modifications and accommodations to meet the needs of individual students and create learning situations in which students feel safe to explore various approaches and response formats. Some students are comfortable just listening, whereas others thrive on learning activities that involve touch or motion. In studying a play, for example, some students might compare the play with other works of literature and enact selected scenes. Other students might demonstrate their understanding of the play by describing a character and role-playing an incident from the plot. Students might also approach the text in different ways. Some might read the play or alternative versions of it, while others watch a video or listen to a recording. Teachers provide a variety of ways for students to demonstrate their learning, recognizing that the threshold of success varies from student to student.

Teachers may provide accommodations for students, such as extending time to complete tasks or having students answer questions orally or by using a computer. They might alter the pace of instruction, separate tasks into stages, change the method of presentation to appeal to visual or auditory learners, vary tasks around the same materials, or employ manipulatives to illustrate concepts. They may use direct instruction to facilitate the learning of certain skills or draw on a variety of meaningful examples to clarify tasks. To support the learning of organizational skills and time management, for example, teachers might instruct students in how to use checklists, schedules, calendars, mnemonics, or color coding.

Accomplished teachers of students with mild to moderate disabilities are able to respond to the diverse needs and characteristics of their students. They know, for example, that the performance of students with learning disabilities can be affected not only by discrepancies between ability and achievement but also by other factors, such as attention deficits or social interaction difficulties. They help students who read significantly below grade level by implementing individualized education goals focused on raising performance to match students' abilities. To do so, teachers use their knowledge of both the accommodated general education curriculum and specialized academic interventions designed to address students' individual learning needs. A teacher, for example, might accommodate instruction by employing speech-to-text technology; validated intervention programs for reading, mathematics, oral, and writing expression; and reinforcement of concepts through tactile and hands-on experiences. For students who demonstrate difficulty attending to instruction or who have behavioral challenges, the teacher ensures that

instructional strategies address academic as well as related needs to help students achieve goals and develop the self-confidence to maintain high performance.

Accomplished teachers provide access to technology so students can communicate with others, participate meaningfully in a wide range of activities, and expand their learning. For some students, appropriate technology might include digitized voice mechanisms, computerized switches, keyboard overlays, or specially designed software. For others, the teacher might use a word-processing program with a word-prediction function. The teacher might also employ technology used for enrichment in general education classrooms to help students with exceptional needs engage with subject matter while they develop appropriate learning skills and strategies. For example, teachers might supplement the reading of historical texts with a visual interpretation of relevant topics or might ask students to discuss character development after they listen to a recorded reading of a novel. Adaptations and strategies may include such cues as having a student wear a ring on the left hand to remember on which side of the page to start reading; providing a manipulative for a student whose field- and depth-perception problems make it difficult to understand two-dimensional diagrams in math; or wrapping pens and pencils in foam rubber for a student with tactile problems or difficulties with fine motor control. A strategy could involve a number of steps, such as outlining the theme of a reading passage orally for a student with learning disabilities, using a highlighter to emphasize the main ideas in each paragraph, reproducing each paragraph on a separate sheet of paper, and then presenting the entire passage for the student to read.

Students With Visual Impairments

Teachers understand that the unique curriculum for students with visual impairments is a parallel curriculum of disability-specific skills supplementary to, but not a substitute for, the regular curriculum. They use multiple techniques and creative strategies for promoting student growth in sensory perceptual skills and early concept development; communication skills; adaptive technology skills; special academic skills; skills in the use of vision alone or with other senses to facilitate task completion; social behaviors; and functional life skills. They understand fully the similarities and differences in specific instructional strategies for students with low vision compared with blind students, applying differentiated strategies with ease and confidence. They further understand their role in providing consultation or direct instruction in unique skills to students who have other disabilities.

Accomplished teachers of students with visual impairments work effectively and cooperatively with families, educators, and other professionals to support and promote high-quality learning experiences in various settings, including schools, homes, community settings, and work sites. They modify or adapt instructional materials for their students by providing braille and appropriate print formats, supplying objects and scale models, using environmental modifications to enhance the use of vision or other senses, and producing tactile maps and graphics. Skilled at balancing the various aspects of teaching unique skills with the demands of the

regular curriculum, teachers willingly demonstrate the use of specialized instructional methods to other educators, support personnel, and family members.

Accomplished teachers of students with visual impairments routinely evaluate their students in terms of the expanded core curriculum, identify their needs, and develop individualized education plans to ensure that their students' needs are met in all areas.

Teachers are knowledgeable about planning, managing, and monitoring student progress in the expanded core curriculum and provide direct instruction in all areas. They orchestrate teaching strategies so that students understand how the unique skills learned in the expanded core curriculum apply to life skills. Teachers regard the development of students' life skills in the expanded core curriculum, and in environments, such as home, work, community, and non-academic school activities, as a means to help students access all aspects of the core curriculum. When appropriate, teachers collaborate with general education teachers and other specialists to integrate the expanded core curriculum into school programs.

When a pre-school student uses tactile skills as a primary learning mode, the accomplished teacher provides direct instruction in communication skills, such as concept development, sensory development, emergent braille literacy skills, and listening skills. The teacher collaborates with parents and early childhood staff to integrate these communication skills in daily activities in the home and in the preschool curriculum. The teacher introduces appropriate assistive technology tools, such as specialized braille tools for reading and writing, and collaborates with the orientation and mobility specialist to promote the student's independence through environmental awareness and exploration, motor skills, and travel skills. The teacher encourages the student to develop appropriate social skills in play and interactions with others. The teacher assists in developing the student's independent living skills, such as eating and dressing. By teaching the student to care for possessions and exposing the student to a wide variety of home and community activities, the teacher helps to prepare the student for career education experiences.

Accomplished teachers of students with visual impairments know how to apply the expanded core curriculum for students at all developmental levels. They are knowledgeable about the unique areas within the expanded core curriculum and their application to students with low vision, students who are blind, students who use a combination of both visual and tactile learning modes, and students who have multiple disabilities.

Throughout their educational practice, whether teaching disability-specific skills or modifying classroom instruction, accomplished teachers foster, promote, and model basic principles, such as the use of concrete, multisensory experiences to establish early concepts and to promote quality learning throughout the school years. They create experiential activities that actively involve students in all aspects of learning

opportunities, thereby allowing them ample opportunities to learn by doing. Teachers provide experiences that promote generalization and application of skills learned in school to real-life contexts and that unify parts of lessons into meaningful wholes, and they help students acquire skills that students without visual impairments learn incidentally through visual observation, such as certain social behaviors.

Students Who Are Deaf or Hard of Hearing

Teachers use their knowledge of students' unique developmental characteristics to design effective instructional programs and to help students, families, and education professionals understand the individual characteristics of students who are deaf or hard of hearing.

An important goal for teachers of students who are deaf or hard of hearing is to help students develop independent communication. To that end, teachers draw on a rich repertoire of instructional strategies to meet students' physical, cognitive, cultural, and communication needs, using assistive devices as appropriate and adapting instruction in accordance with such factors as the availability of support services. Teachers infuse speech skills into academic areas consistent with students' abilities and modes of communication. They vigilantly search for instances of incidental learning that hearing children naturally acquire and find ways to impart that learning to their students. Teachers of students who are deaf or hard of hearing have an extensive knowledge of English and American Sign Language (ASL) structure; of first- and second-language learning theories applied to English and ASL; and of theories of signed languages and their relationships to literacy development. Additionally, they understand the differences between English and ASL literacy and use appropriate methods to facilitate student learning.

Accomplished teachers demonstrate a depth of understanding and a fluency in instruction that distinguishes their practice. They skillfully select and adapt available curricula, materials, and instructional strategies to meet the individual needs of their students, and when needed, design new curricula. They understand the similarities and differences in using specific instructional strategies with a widely diverse population of students, such as those who are deaf, those who are gifted or severely developmentally delayed, and those who have additional disabilities.

Accomplished teachers have a wide knowledge of available technology not only for assisting and augmenting communication but also for delivering instruction. In addition, they can evaluate the acoustics of learning environments for students who are deaf and especially for those who are hard of hearing, weighing such factors as the signal-to-noise ratio and reverberation. Teachers evaluate technology relative to deafness issues and, as necessary, integrate new uses into existing strategies. They do not simply accept the equipment the student already has, such as a particular kind of hearing aid; rather, on the basis of functional assessment and diagnostic data, teachers determine if equipment is appropriate and fits properly or whether new

equipment should be investigated. Teachers skillfully employ captioning equipment, FM systems, visual altering devices, and other technological applications.	
---	--

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Exceptional Needs Specialist Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/ECYA-ENS.pdf>

<p>GENERALIST (EC) <i>Early Childhood</i></p>	<p>NOTES</p>
<p>STANDARD I: Using Knowledge of Child Development to Understand the Whole Child STANDARD IV: Knowing Subject Matter for Teaching Young Children</p>	
<p>OVERVIEW: (Standard I) Accomplished early childhood teachers use their knowledge of child development to understand young children and to foster each child’s development and learning.</p> <p>(Standard IV) Accomplished early childhood teachers integrate the foundational ideas of the subjects they teach, the ways young children think about these ideas, and effective approaches to support each child’s learning.</p>	
<p><i>Standard I: Using Knowledge of Child Development to Understand the Whole Child</i></p> <p>Accomplished early childhood generalists possess the deep knowledge of child development essential for high-quality teaching and learning. They use theories of growth and development to understand the individual children in their classroom and to inform their practices. Teachers¹ know that child development is a complex and dynamic mosaic of change that varies from child to child. Teachers view children holistically; they understand that all developmental domains are interrelated and that changes in one domain may affect changes in another. Their understanding of the phases of early childhood development makes accomplished teachers keenly attentive to the multiple ways young children communicate their knowledge, needs, and capacities. Accomplished teachers honor young children as capable and inquisitive learners, and they respect the ways in which growth and development may differ from one child to another.</p> <p>Accomplished early childhood teachers analyze research demonstrating the relevance of early childhood education to all domains of child development, including social, cognitive, linguistic, physical, emotional, and ethical. They understand the important aspects of each domain, the full range of stages and behaviors within each domain, and the factors that promote or inhibit development. Teachers seek out relevant research in child development and apply that knowledge to meet all children’s needs.</p> <p>Accomplished early childhood teachers understand that early childhood is the critical foundational period of learning and development that sets the stages for future development. They know that research continues to evolve, giving insights into how the brain functions in young children. Teachers know the factors that influence brain</p>	

¹ All references to *teachers* in this document, whether or not stated explicitly, refer to accomplished early childhood generalists.

chemistry and development, such as nutrition, the environment, and trauma; and they provide stimulating activities to enhance children's health, learning, and Early Childhood Generalist Standards behavior. Accomplished teachers nurture young children's curiosity, problem solving, autonomy, caring, risk taking, persistence, and humor.

In the remainder of this standard, the domains of child development are discussed separately, although accomplished teachers are aware that, in fact, they are intertwined.

Fostering Physical Development

Accomplished early childhood teachers understand the ways in which physical development can have positive and negative impacts on all areas of young children's growth and development. They know that physical development is characterized by change, growth, and maturation of the body. Physical development encompasses physical growth, fine-and gross-motor development, and sensory development. Teachers know that young children's growth and development are affected by such factors as health, nutrition, exercise, and sleep, and teachers know that the degrees to which children receive adequate rest and nutrition are expressed through their levels of energy and alertness. Accomplished teachers are advocates for the health and well-being of all young children.

Accomplished early childhood teachers recognize the stages and signs of healthy physical development in young children. They are alert to evidence of physical problems that may detract from a child's ability to learn, such as hearing or vision problems, illness, neglect, abuse, poor nutrition, dental problems, lack of sleep, and any possible exceptionalities. They know which physical difficulties or limitations may indicate more serious problems. Teachers understand that young children receive information from their bodies and the environment through their senses, including touch, smell, hearing, vision, taste, and proprioception, which is the sensing of temperature and body position. Accomplished teachers understand that the way children gather and process sensory information influences their ability to interpret information and perform such tasks as planning physical actions, performing steps in sequence, and completing tasks in a coordinated manner. When appropriate, teachers consult with families² and, if necessary, refer children to specialists for evaluation. For example, if a child consistently fails to respond to the teacher when the teacher is speaking behind the child, the teacher might ask the parents if the child exhibits the same behavior at home and perhaps ask about the child's health history. If it seems likely that the child has a hearing problem that requires intervention, the teacher would assist as appropriate.

Accomplished teachers use their knowledge of children's physical development to structure learning experiences and environments in ways that are suitable to each

² The term *family* is used throughout this document to refer to people who are the primary caregivers, guardians, or significant adults in the lives of children.

child's sensorimotor and cognitive development. Teachers understand the importance of classroom furniture that is child-sized; of daily schedules arranged to provide opportunities for longer, active-movement times balanced with shorter, quiet times; and of manipulative centers that provide aid in children's small-motor development. They plan periods of large-motor, vigorous exercise, knowing that such activity promotes brain, lung and organ development. Early childhood generalists take responsibility for designing the entire range of learning experiences to support healthy physical development, weaving movement activities throughout the curriculum and the day. When possible, they collaborate with physical education and health education specialists to extend opportunities for children's well-being and development.

Fostering Cognitive Development

Accomplished early childhood teachers understand that early childhood is a critical period in cognitive development. Teachers understand how children are thinking at a given phase in their development and know how to help them move to the next level of reasoning. Teachers know that whereas most young children draw upon all of their senses to learn, some children are primarily visual learners, other children learn best through auditory means, and still others can best process information when it is presented in multiple modalities. Teachers use their knowledge of individual children's learning styles to create learning experiences that are accessible to each child. In the case of a child who has difficulty maintaining attention during cognitive tasks, the teacher might intersperse cognitive tasks with periods of intense physical activity; whereas with children who learn cognitively best in a consistently quiet, still environment, the accomplished teacher would take a different approach.

Accomplished early childhood generalists recognize the foundational nature of brain development that takes place in the early years, and they are particularly aware of the degree of change that occurs in children prior to age three. Teachers understand that the brain is a dynamic organ that is shaped by experience; learning not only causes the growth of neurons, but also alters the physical structure and organization of the brain. Teachers recognize that research on the brain, mind, and human cognition is constantly progressing, and they cautiously strive to understand how such research can best inform educational actions. Accomplished teachers apply strategies and information from confirmed brain research to heighten the likelihood of children's success. For example, they build on children's prior knowledge and readiness and, recognizing the pivotal importance of a child's ability to attend to learning, they plan a variety of ways to help young children focus their attention and increase its duration.

Accomplished early childhood teachers know that cognitive development includes the thought processes of memory, reasoning, decision-making, problem-solving, and creative thinking. Teachers know that children's ability to acquire, apply, analyze, and generalize information develops through experiences over time. Teachers are keenly aware of the influence that prior knowledge and experiences have on children's cognitive development, and they do not assume that all children share similar

background experiences. For example, although nursery rhymes have long been a useful tool for developing children's phonological awareness and fluency in reading, teachers do not assume that all children have become familiar with nursery rhymes at home. Accomplished teachers assess children's prior knowledge, build upon the skills children bring to school,³ and facilitate experiences that foster cognitive development.

Accomplished early childhood teachers apply knowledge of the influences that affect cognitive development when working with young children. They know that factors such as the home environment, heredity, health issues, culture and language, nutrition, and the larger community can affect a child's cognitive development. Teachers know that some negative influences can be ameliorated by providing certain experiences while others cannot. Even though some factors are beyond the teacher's control, accomplished early childhood generalists differentiate and individualize experiences to help all children move forward and achieve their fullest potential.

Accomplished early childhood teachers know that purposeful teaching builds on young children's prior knowledge and experiences, natural curiosity, imagination, and creativity to help them understand concepts about a range of disciplines. Teachers provide adequate time, rich materials and resources, and rigorous and appropriate expectations to support children's learning. Under teachers' guidance, young children learn to recognize patterns, understand relationships, construct complex ideas, and establish connections among disciplines. Teachers know that metacognition is within the reach of young children and is crucial to processing and making sense of information. Teachers help children plan activities, carry them out, and then reflect on them. Accomplished teachers choose tasks that build on the principles of inquiry in order to help children make predictions, experiment, synthesize information, reach conclusions, and make generalizations. Inquiry-based activities encourage children's autonomy and sense of responsibility for their own learning.

Accomplished early childhood teachers understand that young children construct knowledge through playful exploration and then become ready to focus their attention on specific dimensions of materials. For example, three-year-olds will spontaneously explore a given object set before them, whereas eight-year-olds are more likely to approach the object with a conscious plan for exploration. Knowing that brain research suggests the use of patterning to help children learn, teachers give children ample practice time to comprehend challenging material. Young children learn to develop cognitive strategies such as organizing, reasoning, explaining, and reflecting when they can share their thinking with other children, teachers, and parents. Accomplished teachers use questions and feedback during social interactions with children so they can reflect and make sense of their learning.

³ The term *school* is used throughout this document to refer to all early childhood educational programs, including early childhood centers, child development centers, daycare centers, preschool centers, and elementary schools.

Accomplished early childhood teachers value the social aspects of young children's construction of knowledge. Guided by their knowledge that initially young children can do more in collaboration with others than they can do alone, teachers intentionally plan opportunities for children to work together, as in center time and group work, and set realistic expectations for young children's independent performance. Teachers also know the value of teacher support, interaction with older children, and appropriate scaffolding in young children's knowledge construction.

Accomplished early childhood teachers solicit the wisdom of the classroom community and build upon it. They nurture children's respect for one another's ideas. Teachers create a psychologically safe climate for children's learning by helping children realize that making mistakes is part of learning. Accomplished teachers orchestrate an environment in which young children build the confidence and competence that will prepare them for a life of acquiring and applying knowledge.

Fostering Language Development

Accomplished early childhood generalists understand how language develops and realize that early childhood is a particularly critical time for language acquisition. Teachers understand that language development is a complex process that proceeds through distinct stages. They understand, for example, that receptive language develops before expressive language. They stay attuned to the changing body of knowledge about young children's language acquisition and use this knowledge to plan successful learning experiences.

Accomplished early childhood teachers recognize the varying levels of language proficiency among the children in their classroom, and they differentiate teaching to meet each child's needs. They recognize typical and atypical patterns of development, and they know when it is appropriate to consult with families or to refer children to specialists for evaluation. For example, teachers know the difference between minor misarticulations and those speech patterns that interfere with children's fundamental ability to communicate. Teachers create learning experiences and a classroom environment that provide children with a variety of daily opportunities to use language to interact and socialize with others. Because they recognize that frequent opportunities to interact with mature speakers are critically important to children's language development, teachers engage in numerous conversations with children every day.

Accomplished early childhood teachers know that communication is a tool that human beings use to meet their physical, social, and emotional needs. Effective communication skills are integral to children's self-expression, to their development of social relationships, and to their learning. Teachers help children understand that language allows them to organize and express their views and questions about the world, demonstrate their growing expertise, and communicate with other people.

Accomplished early childhood teachers have a clear understanding of how second languages are acquired. They value the home languages of children who are English

language learners, and they understand that a child's native language is the foundation for literacy and learning. To the best of their ability, teachers seek ways to promote English language learners' home language development at the same time that they advance children's ability to communicate in English.

The classrooms of early childhood teachers are inclusive places where varieties of language are accepted and where teachers model a variety of uses and means of oral, visual, and written language. Accomplished teachers understand that language development is influenced by such factors as home environment, including the home language and the frequency and nature of adult-child interactions, and health problems such as hearing challenges. Teachers understand that children from some homes may have heard fewer words and fewer positive affirmations than children from other homes. To help compensate for such circumstances, teachers intentionally expose children to enriched vocabulary and provide positive affirmations throughout the day.

Accomplished early childhood teachers recognize the interrelatedness of language to children's cognitive, social, and emotional development, which in turn may affect a child's self-esteem. Teachers recognize that young children may need support in such areas as building relationships, joining groups, and communicating wants and needs. Early childhood teachers are aware that problems with relationships can affect children's cognitive, social, and emotional development, and they actively work to help children with such concerns.

Fostering Social Development

Accomplished early childhood teachers view social development as an essential goal for young children. Teachers understand that young children are beginners at learning the social skills needed to interact competently in a multitude of settings, and they skillfully guide children as they develop their capacity to interpret social cues and adjust their conduct appropriately. Accomplished teachers help children understand interpersonal expectations in various social interactions, both through modeling and through explicit instruction. Teachers know the importance of facilitating young children's developing peer relationships and their interactions with adults beyond the realm of home and family.

Accomplished early childhood teachers help children move from being primarily concerned about themselves to being able to acknowledge the needs of others. They recognize that a critical developing skill for many young children is learning to exercise self-control, particularly in their interactions with other children and in public settings such as the classroom. Teachers help children develop empathy. For example, if a kindergarten child falls on the playground and, though unhurt, begins to cry, the teacher might encourage classmates to comfort the distressed child, both to show empathy and to help restore the play situation.

Accomplished early childhood teachers are keenly aware of the role that culture plays within the social domain. They help children appreciate cultural differences and learn

how to behave appropriately in varied social environments. Teachers know that children's social behaviors are shaped by their familial experiences. For example, in some families and cultures, children may interact freely and openly with adults, much the same as they do with their peers, whereas in other families and cultures, children may be taught that such free and open interactions are a sign of disrespect. In certain cultures, some children may be taught not to look an adult directly in the eye, whereas in other cultures, failing to look an adult in the eye when speaking is a sign of disrespect. Because many children must navigate widely divergent social expectations, accomplished teachers explain and model appropriate social skills and norms.

Accomplished early childhood teachers understand that social development is crucial to successful learning in groups and is a core component of success in work, family, personal, civic, and community contexts. Teachers know that social interaction is essential to children's linguistic and cognitive development, and they can express the importance of this aspect of development to families. Teachers also know that children from ages three to eight typically make significant gains in acquiring and applying skills in the social domain. Accomplished teachers make opportunities for children to learn from one another and encourage them to help one another in thoughtful ways.

Accomplished early childhood teachers are keenly aware of their responsibility for establishing a social climate that fosters learning and develops life skills for young children. They are skilled at setting norms for social interaction and intervening to assist children in resolving disputes. They model, recognize, and encourage such dispositions as respect, integrity, honesty, fairness, and compassion. They help children develop social knowledge about learning in groups, the behavioral expectations of peers and adults, the need to adapt to classroom and school rules and routines, and the norms of society at large.

Fostering Emotional Development

Accomplished early childhood teachers take responsibility for fostering young children's emotional well-being and development. Teachers know that for young children, the emotional domain develops in relationship to their increasing sense of self-awareness, identity, and autonomy. Children's ability to regulate their emotions in the academic setting is directly related to their sense of competence, their ability to express their feelings, and their evolving sense of belonging. Accomplished teachers help children learn to recognize their feelings and understand that their emotional states can alter their thinking. Teachers understand the importance of enhancing children's self-respect, resilience, and confidence and seek to promote autonomy, appropriate risk-taking, and constructive persistence.

Accomplished early childhood teachers know that young children progress through stages of emotional development. They are familiar with the degrees to which children of different ages are able to identify emotions, express feelings, manage impulses, and exhibit appropriate behavior. Teachers recognize typical and atypical

patterns of emotional development and regulation, and they know when it is appropriate to consult with families or to refer children to specialists for evaluation. Teachers understand that children at different ages have varying abilities to solve personal and social problems without giving up or losing control. Accomplished teachers promote positive behavior, and when discussing emotional issues with children, they use appropriate terminology for the developmental range.

Accomplished early childhood teachers are aware that many factors may affect a young child's emotional state, and they find creative ways to make the school environment a nurturing one. A teacher might ask parents to bring photographs of the family or a special toy for naptime to help a young child make the transition from home to preschool or kindergarten. Teachers are conscious of the fact that their words have an impact on young children and that the effect can be profound and lasting, either inspiring or impeding future progress. Teachers carefully monitor what they say to children, and they also attend to what children say to one another. By responding respectfully to children's interests and concerns instead of simply giving them directions, accomplished teachers make children feel valued and safe. Teachers know that children's emotions fluctuate and are alert to possible stressors. They competently analyze the reasons for children's behavior, even when those reasons are complex or covert. For example, one child may be misbehaving out of simple exuberance while another may be exhibiting similar behavior in order to be punished or to avoid a certain lesson. An accomplished teacher knows when a simple redirection or reminder is sufficient and when further observation or action is required.

Accomplished early childhood teachers know that a child's emotional state is affected by people and events outside the school setting. Teachers help young children learn ways to maintain a positive identity despite sometimes negative words or actions on the part of others. They also help children deal with fear. For example, when a disaster or traumatic event occurs, the accomplished teacher allows children to express their feelings as needed and provides the necessary information to place the children at ease. Teachers responsibly seek out resources such as literature, support beyond the classroom, or expressive opportunities such as dramatic play, puppetry, drawing, and writing to help children make sense of the event and allay excessive anxiety. Accomplished teachers are skilled at recognizing the signs of emotional distress and addressing significant issues with the child and parents. Teachers know when to consult with other support systems and when to provide families with access to other resources.

Fostering Moral and Ethical Development

Accomplished early childhood generalists know that the field of ethics defines what is good for the individual and for the group and establishes the nature of what one should do in the interest of justice and fairness. Teachers understand the importance of young children's moral development and actively instruct children about ethics. Teachers help children develop a conscience, a sense of integrity, and the ability to delay gratification.

Accomplished early childhood teachers know that young children have varying abilities to comprehend ethical issues and moral dilemmas depending on their developmental stages. They also have differing abilities to regulate their behavior based on their cognitive, emotional and social development. Teachers use teachable moments to help children develop the capacity to reflect on their actions, generate age-appropriate solutions to ethical problems, and exert self-control. Teachers understand children's common misconceptions about ethics. For example, a three-year-old child might think that a person who breaks an object by accident is just as culpable as one who breaks something on purpose, whereas an eight-year-old would be more likely to comprehend that intent makes a difference. Teachers help children progressively move to more sophisticated ethical judgments without expecting more of them than is reasonable at a given stage.

Accomplished early childhood teachers realize that many factors affect young children's moral and ethical development. A child's temperament, home culture, family structure, and socioeconomic level can all affect the child's sense of right and wrong and ability to evaluate moral and ethical issues. Accomplished teachers are sensitive to differences between school policies and family viewpoints. For example, the school may have a policy of no hitting, but parents may disagree and encourage children to defend themselves physically in some situations. Accomplished teachers help children observe ethical norms in the school community without showing a lack of respect for the family's values.

Accomplished early childhood teachers approach classroom management as a means to self-discipline and self-awareness. They help children understand that behaving ethically is not just a matter of automatically conforming to a set of rules but rather the complex act of considering how best to treat others and behave in a group. Accomplished teachers enable children to develop the ethical behaviors that will eventually make them successful, responsible adults.

Standard IV: Knowing Subject Matter for Teaching Young Children

Accomplished early childhood generalists bring together their knowledge of children, content, and pedagogy in ways that often appear effortless. In actuality, achieving this mastery requires deep knowledge of the foundational ideas in subject matter, sensitivity to the ways that young children reason about content, and awareness of the difficulties children typically encounter. Accomplished teachers understand that fostering young children's development in social, cognitive, linguistic, physical, emotional, and moral-ethical domains is crucial during the early childhood years. Teachers intentionally integrate these developmental domains into the teaching and learning of subject matter for young children. Accomplished teachers of young children know what is important in each content area, why it is important, and how it links with earlier and later understanding, both within and across subject areas.

Accomplished early childhood teachers design and implement experiences that effectively convey developmentally appropriate content and develop young children's

critical thinking and creativity, and they also nurture the dispositions toward learning that children will need for success in the future. By making subject matter relevant, meaningful, and captivating, accomplished teachers invite children into the world of ideas and information.

Knowing Subject Matter

Accomplished early childhood teachers prepare young children to use subject matter in future levels of formal education and in life beyond school. They support children's enthusiasm, wonder, and curiosity about the subject areas. Teachers have a strong grasp of the subject areas they teach, including the main academic areas (language and literacy, mathematics, science, and social studies), the arts (visual arts, music, and drama), health education, physical education, and technology. They have deep insight into the knowledge, skills, and practices that distinguish each subject. They know how information is structured within each subject and understand the pedagogical methods through which subject matter knowledge can best be conveyed to young children. Accomplished teachers know the unifying concepts that connect essential facts, ideas, and processes within each subject. They stay abreast of developments in the subject areas and appropriately incorporate new information in the classroom. They immerse themselves in learning and teaching all subjects with equal dedication. They realize that nurturing productive dispositions toward every subject is an essential professional task in the education of young children. As a result, accomplished teachers demonstrate purpose, create relevance, and model enthusiasm for each subject area, and they advocate the importance of every subject area.

Even though the degree to which disciplinary distinctions are apparent varies according to the developmental level of the children being taught, teachers ensure that all young children have opportunities to learn each subject. Teachers create ambitious but reasonable expectations for learning based on their general knowledge of child development and their ever-growing knowledge of the particular children they are teaching. They are knowledgeable about local early childhood learning standards as well as national and state content standards and use them as guides in their teaching and interactions with children and families.

Accomplished early childhood teachers know research-based instructional strategies specific to the disciplines. They judiciously select and capably employ the strategies that best suit their instructional goals and the development levels of the young children they are teaching. They sequence learning experiences in ways that make sense conceptually and that help children move steadily toward greater proficiency. Accomplished teachers find ways to integrate content areas seamlessly; however, they also know when to teach subject matter in isolation in order to enhance the learning experiences of children. Teachers continuously research instructional resources and skillfully choose and adapt those which will best support children's learning.

Integrating Subject Matter

Accomplished early childhood teachers know that subject-matter integration allows children to learn in the interactive, holistic ways that are most natural to them. Teachers draw on their understanding of the specific young children in their classroom as well as core subject matter when planning, implementing, and assessing integrative experiences. Teachers thoughtfully weave various aspects of the curriculum into meaningful associations in order to engage children's interests, embody appropriately high expectations, foster higher-level thinking, and encourage real-world applications.

Accomplished early childhood teachers are advocates for subject matter integration that is meaningful and authentic to children. They exercise professional judgment about the value and relevance of topics for integrated study, including those suggested by children. When designing integrated content experiences, teachers align goals, objectives, and child outcomes with state standards and local program expectations. Teachers use ongoing assessment of learners to refine cross-disciplinary activities, and they explain to children, parents, and others how integrated learning is structured. Over the course of the instructional year, accomplished teachers achieve balance in teaching all subject matter, using an appropriate blend of events that focus on one subject area and those that are integrated. At the end of an integrated experience or project, teachers assess children's progress in relation both to specific subject area knowledge and cognitive skills that bridge disciplines.

Accomplished early childhood teachers employ a variety of ways to integrate content. They create opportunities for young children to investigate, research, write, create, express their knowledge artistically, and share their learning with an audience. They offer possibilities for thinking about content in new ways. They might engage children in projects, themes, invented games, community-service projects, concept maps or webs, or whole-group exploration of broad questions. Integrated approaches might include actual and virtual guests and trips, creative writing activities and dramatics, contests, construction of replicas, visual documentation of child and family events, or child interviews of family and community members.

The following sections describe how accomplished early childhood teachers understand the main content strands and practices in each subject, know and attend to the unifying concepts in each subject, apply their insights into the ways that young children typically understand each subject, and use their knowledge of the pedagogy and resources for each subject to provide meaningful learning experiences for children.

Language and Literacy

Accomplished early childhood teachers are conversant in the major theories, knowledge bases, and controversies related to the teaching of language and literacy. They create programs that promote the interrelated skills of listening, speaking, reading, writing, viewing, and visually representing. They also have a broad

understanding of the continuum in language development and reading development and of the ways the stages of learning shape a model for teaching language and literacy. Teachers promote daily print and oral experiences. They use visual representations such as graphic organizers, graphs, charts, illustrations, photographs, and available technologies to foster critical and creative thinking through the use of language. They draw on their knowledge of the key challenges and typical and atypical processes in the development of literacy skills and capacities.

Accomplished early childhood teachers know how young children acquire a first language and how they acquire a second one, and they address the challenges that English language learners face. Teachers differentiate instruction so that all children can achieve their fullest potential. Teachers design appropriate learning experiences in ways that will challenge and motivate children at a suitable pace. They explain to parents, administrators, and colleagues how their instructional strategies and objectives support children's language development.

Accomplished early childhood teachers recognize the importance of social interaction in developing strong language and literacy skills, and they facilitate such interaction among young children. Teachers support dramatic play, such as spontaneous pretend play, dramatizing their own and other people's stories, and reenacting literature, as an important way to help children develop literacy skills. Teachers might have children create group morning message charts as well as individual and group stories, and then share them aloud in order to understand better the connection between what is said and what is written. They might also use class poems and songs as a further means to reinforce these connections. Accomplished early childhood teachers might use interactive writing to begin to teach the conventions of written language.

Listening and Speaking

Accomplished early childhood teachers understand that literacy is developed by building on every young child's oral language skills, including the development of listening comprehension skills, a rich oral vocabulary, the ability to understand and express complex thoughts through spoken language, and the ability to reflect on language. Although these skills develop naturally, teachers use explicit instruction and rich language experiences based on children's individual needs to expand children's use and appreciation of oral language. Teachers foster and model listening and speaking. They also explicitly teach speaking and listening skills without hindering children's natural expressive abilities, diminishing the importance of their families' primary language, or dampening their desire to continue learning. (See Standard V—Assessing Children's Development and Learning.)

Accomplished early childhood teachers know that listening is more than just the physical act of hearing; it is the process of receiving and attending to meaningful auditory stimuli, processing sounds, and comprehending auditory messages. Teachers know that attending to the speaker is fundamental to listening. Therefore, teachers model for young children how to stop what they are doing when someone begins to speak, look directly at the speaker, listen for main ideas, and ask questions for

clarification. Teachers encourage children to pay attention to such non-verbal cues as body language and facial expressions in order to understand better and relate to others. Accomplished teachers explain that various cultures have differing conventions for nonverbal communication, and they help children interpret these differences when they arise.

Accomplished early childhood teachers are knowledgeable about distinct purposes for listening, such as informational, critical, appreciative, relational, and discriminative. They provide experiences that allow young children to listen for all these purposes, and they help children develop listening strategies to match each purpose. For example, interactive listening activities such as call and response foster question-and-answer interactions.

Accomplished early childhood teachers are well versed in the literature that examines the connection between oral language development and the acquisition of reading and writing skills, both for native English speakers and for those learning English as a new language. Teachers use this knowledge base to design appropriate learning experiences for children of different ages and with different levels of language and literacy in their first language and in English.

Accomplished teachers provide children with opportunities to participate in rich and varied experiences with spoken language. They engage children in meaningful conversations. They retell what they have seen and restate what they have heard, and they encourage children to do the same. They provide activities and materials that promote children's conversations with peers and adults, both one-on-one and in groups. They encourage children to discuss stories, the things they are learning in school, and their own experiences. Teachers invite children to play with words and sounds through such vehicles as rhymes, chants, and songs, and they foster children's awareness of the rhythmic patterns in language. Accomplished teachers are constantly working to expand and enrich children's vocabulary. They support children's presentation of information in clear and well structured ways, model for children how to adjust their speech and language depending on their audience and purpose, and provide an environment in which children feel safe communicating their thoughts.

Accomplished early childhood teachers show respect for diverse language traditions. They demonstrate the importance of oral traditions to various cultures by teaching fables, fairy tales, folktales, folk songs, and legends in age-appropriate ways. Teachers extend opportunities to people of many cultures to share their rich oral histories with the class. For example, an accomplished teacher might invite family and community members to sing a traditional song or chant from their native culture. Accomplished teachers provide the necessary support for children whose first language is not English, and they understand the issues that arise when standard English is not the language a child speaks on a regular basis. Accomplished teachers make the effort to understand how literacy is understood and used in the child's home culture and family, and they apply their findings in ways that increase children's prospects for success.

Accomplished early childhood teachers accept and value young children's unique modes of expression and distinctive dialects as they guide them toward conventional speaking. Teachers recognize that mastering the conventions of formal language is one key to children's future success. Accomplished teachers model standard English in the classroom and find appropriate ways to incorporate enriched language in their speech. When children's utterances are fragmentary or vague, accomplished teachers recast those utterances as complete sentences containing precise and vivid language, and they do so in a way that is natural and respectful, helping children see how to use oral language in a more sophisticated way. Teachers also use their knowledge of oral language development to identify children who may benefit from assessment by a specialist. In the case of children who need speech and language interventions, accomplished teachers collaborate with specialists and families and provide related support in the classroom.

Reading

Accomplished early childhood teachers recognize that in order for children to become proficient readers, teachers must provide a comprehensive, balanced approach to instruction which includes explicit, systematic reading skills development. Teachers of younger children incorporate the components of teaching early literacy (print awareness, phonological awareness, alphabet knowledge, vocabulary, and comprehension) and teachers of older children incorporate the components of teaching reading (phonemic awareness, phonics, vocabulary, comprehension and fluency) every day.

Accomplished early childhood teachers know the broad range of print-awareness skills and provide children with opportunities to acquire these skills. When reading to preschool and kindergarten children, teachers focus children's attention on such features as book concepts, print directionality, and differentiating pictures from print. Because they understand the challenges young children face when attempting to map spoken language onto print, teachers often point to the text as they read in order to help children track the text. Teachers of primary-aged children help learners begin to understand how authors use headings, graphs, and pictures to aid readers in constructing meaning from the text.

Accomplished early childhood teachers know that explicit instruction in phonological awareness is important to children's development as readers and that children's knowledge progresses from the whole (words in sentences) to the smallest parts (sounds in words). While teachers provide children with opportunities to acquire the full range of phonological awareness skills, including separating sentences into words, clapping syllables in words, and blending, segmenting, and substituting phonemes in words, accomplished teachers of preschool and kindergarten children emphasize learning opportunities focused on early phonological awareness skills. Teachers of primary-aged children emphasize the phonemic awareness that will help children decode unknown words.

Accomplished early childhood teachers know that alphabet knowledge includes identifying and naming letters and producing letter-sound associations, and they know the role that alphabet knowledge plays in children's ability to decode and spell words. Teachers provide young children with both playful learning opportunities and explicit teaching strategies to help them learn letter names, often beginning with the letters in the child's name. Teachers know that although children learn some letter-sound associations when they learn some letter names, primary-aged children also need explicit phonics instruction. Teachers provide phonics instruction and help children learn how to apply this knowledge to decode written words. Early childhood teachers are aware of issues that affect the alphabet awareness of English language learners. They know that not all children's home languages have a written form, that not all languages are written alphabetically, and that some children will not have experienced all the sounds of English in their home languages. Accomplished teachers are sensitive to the ways in which children's diverse language backgrounds affect their ability to learn sound-letter associations in English and provide extra support when necessary.

Accomplished early childhood teachers know that the size of a child's vocabulary is a strong predictor of reading comprehension. Therefore, early childhood teachers use a variety of research-based instructional strategies, such as repeatedly reading books with rich vocabularies, providing child-friendly definitions of words while reading to children, and creating word walls to increase children's expressive and receptive vocabularies. Teachers also recognize the importance of providing explicit vocabulary instruction.

Accomplished early childhood teachers recognize that the primary goal of reading is comprehension. They help young children master reading comprehension skills, such as identifying main ideas and key details, identifying cause-and-effect relationships, understanding the sequence of events, comparing and contrasting ideas and details within and across texts, and analyzing literary elements such as plot and theme. Teachers understand that children need to apply a wide range of strategies, such as predicting, generating questions, rereading, creating graphic organizers, discussing, and summarizing to comprehend, interpret, evaluate, compare, and appreciate texts. Teachers encourage children to ask and answer questions before, during, and after reading. Teachers model for children how to make connections that link text to self, text to text, and text to the world. Accomplished teachers of preschool and kindergarten children begin young learners' acquisition of these comprehension skills and strategies through regular read alouds. As children transition to reading texts themselves, they learn to apply these skills and strategies in their independent reading.

Accomplished early childhood teachers know that fluency involves more than the ability to read with speed, accuracy, and proper expression; fluency also contributes to comprehension. Teachers read aloud regularly in class to model fluency, and they have young children read to each other, sometimes rereading texts. Teachers have children read aloud a variety of texts, such as stories and poems, and in a variety of formats, such as reader's theatre. Teachers understand the importance of teaching

children to vary their reading rate depending upon the type of text and the purpose for reading.

Accomplished early childhood teachers create a print-rich environment. They make ample use of functional print in the environment, such as posters explaining how to use equipment. They also use environmental print, such as arrows showing how to turn lights off and on, because they know that young children engage in reading environmental print, such as road signs, restaurant logos, or pictures on packages, before they read print in books. Teachers use environmental print to foster young children's understanding of concepts about letters, words, and messages. They provide children with a wealth of appealing reading materials in a range of formats, including print and digital, and at varying levels of complexity. They expose children to texts that represent diverse topics, genres, cultures, and time periods, and they expose children to reading for both information and enjoyment. They use literacy stations or learning centers to provide children with opportunities to reinforce reading skills and strategies, and they share their own love of reading, model good reading habits, and instill the love of reading in children.

In all educational settings, including those in which children's home language is not English, accomplished early childhood teachers build on the previous linguistic experiences of children. They organize their classrooms in ways that take advantage of children's prior literacy experiences. They promote and encourage the ongoing development of language and literacy in spoken language in the home and community.

Writing

Accomplished early childhood teachers know how young children develop as writers, and they use this knowledge to teach writing. They know that young children's writing tends to progress from scribbles, to mock letters and symbols, to developmental spelling with limited control of mechanics, and then to increasing use of conventional spellings of words. They know that for the youngest children, "writing" to express their ideas may involve drawing and dictating as well as actually forming letters and words. Teachers encourage children to communicate using print, and teachers gain insights into children's thought processes and growing literacy by studying what they write. They understand the challenges that children face when trying to convey their thoughts in writing.

Accomplished early childhood teachers understand the importance of teaching writing in ways that are meaningful and developmentally appropriate. Teachers encourage children to write, or pretend to write, during dramatic play; for example, children might act the parts of servers writing restaurant orders, or they might create road signs for block cities they have built. Accomplished teachers create readily accessible writing areas stocked with materials such as pencils, markers, staplers, and paper that children can use to write and illustrate books and cards.

Accomplished early childhood teachers support children’s development as writers in many ways. They introduce children to the different genres, including narrative, informative, and persuasive texts, and they provide opportunities for children to write for a variety of purposes and audiences. They encourage children to share their opinions, provide information, recount experiences, or correctly explain the steps in a procedure. They understand how to scaffold children’s writing development. For example, they might guide children through the stages of creating an argument, moving them from simply stating an opinion to ultimately creating a counter-argument.

Accomplished early childhood teachers provide developmentally appropriate instruction in the writing process. They teach young children prewriting strategies such as brainstorming; finding a topic that fits a purpose or an audience; researching or otherwise exploring ideas related to the topic; and organizing ideas with outlines, webs, charts, or other graphic organizers. They show children how to write a first draft, reminding them to include details that will catch the reader’s interest and to provide support for main ideas. They teach children to revise their work by reviewing ideas and organization, and model how to edit work for spelling, capitalization, punctuation, and grammar. Finally, they help children publish their work. Accomplished teachers weave technology into every step of the writing process, from researching interesting topics, to checking spelling, to publishing.

Accomplished early childhood teachers demonstrate that good writers are also good researchers. They teach young children how to formulate questions, find answers in a variety of sources, evaluate sources, and restate information in their own words. They explain the meaning of plagiarism and show children how to cite sources appropriately.

Viewing and Visually Representing

Accomplished early childhood teachers understand that viewing refers to the act of attending to communication conveyed by visual representations, and that visually representing refers to conveying information or expressing feelings using non-verbal media such as drawings, photographs, graphic designs, or physical performances. Teachers know that viewing and visually representing involve visual language, and they teach children to become attuned to the conventions, style, and vocabulary that visual language comprises. Teachers understand how visual images become part of spoken and written language, thus making visual representations an integral part of language development. Accomplished teachers know that children process visual language differently; for example, children with visual impairments might view drawing, charts, and diagrams tactilely. Accomplished teachers use developmentally and culturally appropriate strategies to teach all children skills related to viewing and visually representing.

Mathematics

Accomplished early childhood generalists know the ways in which young children

think about mathematics and know mathematics in ways that allow them to support the learning of every child. Teachers know the structures and interconnections of mathematical topics. They are skilled in modeling processes and practices that provide young children with the means of developing and using mathematical ideas, and they routinely structure opportunities for children to engage in practices such as representing and explaining their mathematical thinking. Accomplished teachers know, and are skilled in noticing, how children think about particular concepts, procedures, and practices. They are familiar with children's common misconceptions about mathematics, and they assist children in clarifying them as they arise. Teachers lay a solid foundation for future learning by nurturing the view that mathematics makes sense and is practical.

Accomplished early childhood teachers know the content of mathematical strands, including number and operations, geometry and spatial sense, measurement, data and probability, and algebra. They have particularly deep understanding of the early concepts, skills, sensibilities and procedures related to each strand, and they know the ways in which these elements connect. Teachers appreciate and emphasize number and number sense in early mathematics. With younger children, this work involves daily routines that involve the use of numbers and development of number sense through collecting objects, counting objects, and associating numbers with collections of objects; saying, reading, and writing numbers; playing simple games that involve numbers; grouping objects and skip counting by 2s, 5s, and 10s; and engaging concretely with number combinations and estimation. When working with older children, the focus moves toward operations, basic facts and invented algorithms; increasing use of symbols; and engagement with larger numbers and numbers beyond whole numbers. Accomplished teachers know that using pictures, manipulatives, and strategies can help to develop children's fluency with basic facts. They also know how to support children's development of increasingly sophisticated ideas, such as moving from informal understandings of *more* and *less* to the more precise terminology of *greater than/less than* and finally to the use of symbols such as $<$ and $=$. Accomplished teachers might explain mathematical symbols through accessible and playful analogies; for example, they might explain that the $<$ symbol looks like the open mouth of a hungry crocodile that wants to eat the greater number.

Accomplished early childhood teachers are mindful that counting, numbers, and operations do not comprise the entirety of mathematics in the early grades. For instance, they understand that pivotal aspects of mathematics content such as algebraic reasoning are rooted in young children's opportunities to notice, record, and build patterns. Teachers provide time for young children to work through sequences of concept and skill development. They might have children progress from using non-standard measurement, such as the use of body parts and everyday objects to measure, to using standard units to measure properties of an object. Teachers know how national and local standards delineate mathematics content. They also know various ways in which mathematical topics are embedded in mathematics curriculum materials, are embedded in other subject areas, and are embodied in real-world experiences.

Accomplished early childhood teachers competently model processes, including problem solving and reasoning, the representation and communication of mathematical ideas, and the ways that connections are made among ideas. They believe that young children can engage meaningfully in these processes and routinely provide opportunities for them to do so. They know how to support young children as they learn content through the use of these practices and also support learning of key aspects of the processes themselves. They see the roots of mathematical processes in the ways that children organize information, record their ideas while participating in mathematical play and centers, or name an example to support a mathematical idea. Teachers provide tools and technologies that facilitate multiple methods of representation, connections, and communication. They encourage children to describe their approaches to problem-solving and their uses of representation.

Accomplished early childhood teachers know unifying mathematical ideas and understand how these concepts connect mathematical strands as well as connect essential subject matter facts, ideas, and processes. They know that young children are capable of engaging meaningfully with unifying concepts and ensure that the encounters are developmentally appropriate. Accomplished teachers ensure that children encounter ideas such as *precision* when measuring, using operations with numbers, and talking about particular shapes. Teachers encourage attention to *generalization* when helping children move from specific observations to broader insights. For example, when children working with stackable cubes see that $3+4$ yields the same result as $4+3$, an accomplished teacher helps them understand that this pattern is not a unique occurrence but rather is representative of a mathematical property that applies to all addition problems. Teachers point out the different ways in which notation is used. For example, it might be used to label each vertex in a triangle with a different letter, or to use the letters *B*, *Y*, and *G* to document a pattern of blue, yellow, and green colored beads. Teachers encourage children to use notational norms that will serve them well in later learning. They systematically plan opportunities for children to encounter and name unifying concepts, but they also know how to harness teachable moments in ways that highlight the importance and usefulness of those ideas. They realize that overarching insights into mathematics are present even when working on specific concepts and skills, and they use unifying concepts to help children see participation in mathematics as coherent and cumulative.

Accomplished early childhood teachers know that mathematics learning begins with children's insights and language and then builds on these insights. Teachers encourage young children to talk about mathematical ideas, processes, and reasoning. They help young children describe attributes of shapes, identify shapes in their immediate environments, and reason that the orientation of a shape does not affect its attributes, so that for instance a door and table can both be rectangles even though one seems tall and skinny and the other appears to be short and wide. Teachers ask children to demonstrate and explain the logic by which they reached an answer. They help children make connections between informal everyday language, such as "take away," and formal mathematical language, such as "subtract." They also

use tools such as models, diagrams, and story problems to expand children's initial understanding of concepts such as subtraction. Teachers help children learn that in mathematics, many names can be associated with the same thing. For example, 4 is a digit, a quantity, a numeral, and an even number. Teachers model the appropriate use of mathematical language and provide many opportunities for children to develop mathematical language through experiences such as describing shapes as a process to understand geometry concepts; estimating quantities, distances, weights, and lengths of familiar objects when considering measurement concepts; and making predictions while using data. Teachers also know that invention, inefficiency, and error are a part of the process of developing mathematical ideas. Teachers recognize that understanding concepts, fluency, skill in developing and using strategies, adjusting ideas to work in particular contexts, and perseverance are all hallmarks of mathematical competence. They value each of these attributes of competence, understand their interdependence, and use knowledge of children's thinking to plan and implement instruction.

Accomplished early childhood teachers provide varied opportunities for children to explore mathematics. Teachers design mathematical tasks that engage children in doing mathematics in authentic ways. They encourage children to generate their own questions and then develop, explain, and defend their responses. They create rich environments in which children select from among manipulatives, mathematical tools, and technology as means to solve problems. Accomplished teachers encourage children to exchange ideas and strategies and to try different approaches to problems. Teachers scaffold learning in such a way as to help children reflect and gradually arrive at key ideas over time. They partner with parents and obtain community resources to expand where, when, and how children use mathematics. Using all these strategies, the accomplished teacher supports young children's learning and their sense that mathematics is worthwhile.

Science

Accomplished early childhood teachers appreciate the ways that young children think about science. Teachers understand key elements in science and select science content that strengthens the cognitive capacities of learners. Teachers know that young children's dispositions toward science form at an early age, and they build skillfully on children's curiosity and wonder to help them organize and report their meaningful discoveries. They provide consistent opportunities for children to examine, explore, compare, classify, describe, and ask questions about their environment. They support children's growth in the ability to formulate and follow up on questions, and as children progress, teachers help them explore their world more systematically. Teachers understand the nature of scientific inquiry and the ways in which the scientific community works to test theories and build knowledge over time. Accomplished teachers use inquiry approaches to provide opportunities for children to learn scientific skills, such as predicting, observing, gathering information, inferring, generalizing, and analyzing data, to acquire the skills needed for inquiry and to create their own hypotheses.

Accomplished early childhood teachers are familiar with the major concepts of earth science (space, physical features, geological formations, forces of nature, and environmental science), physical science (motion and energy), and life science (plants and animals). Teachers are adept at teaching the unifying concepts and themes of science, such as systems, energy, and change, and they realize the significance of process standards to support those ideas.

Accomplished early childhood teachers help young children see the relevance of science. For example, when teaching life science, teachers might engage younger children in understanding the body through activities involving their senses and through stories, songs, and motions. Teachers might involve older children in earth science with a study of animal habitats or an investigation of the features of the natural environment outside the school. In physical science, teachers might begin simple investigations of the properties of water by having children observe an ice cube and tell what occurs when it is exposed to heat. The children might further explore water's states of matter by heating the water to see it evaporate or freezing it so that it will turn into a solid cube. In environmental science, the accomplished teacher might have children plant a garden or develop and observe a compost pile to learn how to recycle waste into useful fertilizer that helps save our Earth. Accomplished teachers understand that such hands-on activities help children make connections to the world around them.

Accomplished early childhood teachers know that young children typically have roughly formed notions about science. Teachers value the thinking processes behind children's naïve conceptions and design developmentally appropriate learning experiences to help children uncover explanations that are closer to scientific reality. For example, teachers might guide younger children to discover the reason an item sinks is not because it is too big or, with older children, because it is too heavy. Teachers understand the complexity of concepts in science, and they take care to address the scientific process to help children understand those concepts. Teachers know what level of scientific terminology is challenging yet attainable for children of a given age. Teachers design learning experiences that help children uncover for themselves the counterintuitive nature of many scientific principles. Accomplished teachers understand that deep discussions can transform a class of children into a community of future scientists.

Accomplished early childhood teachers know that children need to know scientific facts as well as to practice scientific inquiry, and they create a program that balances both elements. They help young children become aware of the scientific nature of their questions, pursue multiple paths to investigate a problem, and raise new questions. Teachers also allow children to take control of investigations and extend them if they wish. Rather than having children simply execute prefabricated experiments, accomplished teachers use probing questions to steer children toward discoveries.

Accomplished early childhood teachers understand ways of using inquiry to engage children in hands-on science that supports the learning of scientific concepts and

processes. They know that engaging children in science is foundational for developing children's ability to ask questions, conduct investigations, collect data, and seek answers. Teachers provide sufficient time to instill in children a deep understanding of essential scientific concepts rather than simply providing children with a superficial acquaintance with isolated facts. They help children develop acute observational skills and support children's emergent reasoning and problem solving about what they experience through their senses. In addition, they incorporate ongoing exploration, investigation, and inquiry in science as a consistent part of their curriculum. Teachers systematically plan instructional activities, some of which focus solely on science and some of which integrate science with other subject areas. Teachers are also adept at using teachable moments to steer children toward new knowledge. Accomplished teachers constantly research new knowledge bases and use technology and best practices to enhance children's learning in science. Accomplished teachers ensure that all children have an equal opportunity to engage in science as a means to understand better and enjoy the natural world.

Social Studies

Accomplished early childhood teachers know that social studies is the vehicle through which young children acquire knowledge of the past and the present and prepare for the future. They know that for young children, understanding social studies begins with fundamental questions about who they are and where they live. While supporting individual development and identity, accomplished teachers move children into and out of a variety of social groups in school and the broader community as a way of developing the sense of social identity essential for understanding social studies. Teachers nurture children's abilities to work collectively and make informed decisions for the common good. Teachers' ultimate goal is to help children become responsible, productive citizens of their local communities, their nation, and the world.

Accomplished teachers are knowledgeable about the fields of history, geography, civics, and economics. They understand the connections among these fields and effectively integrate the scope and sequence of social studies across the curriculum in developmentally appropriate ways. Teachers take advantage of children's natural curiosity about the world to introduce them to the ways in which social science promotes understanding of different cultures, people, and places. Teachers know the common misconceptions children have within the social studies. For example, children might think that George Washington and Abraham Lincoln were friends or that all Native Americans live in teepees. Teachers are adept at teaching skills and concepts in ways that ensure the social studies are not viewed simply as factual recall. Accomplished teachers plan for active and authentic learning experiences; whenever possible, they use field trips, reenactments, and play to make social studies come to life. Through the innovative use of literature, technology, artifacts, and data from places such as historical societies and museums, teachers provide children with valuable opportunities to gain a sense of human existence in the past and the present. Accomplished teachers also encourage children to make predictions about the future.

Accomplished early childhood teachers strive to use children’s natural curiosity to help them understand the concept of history. Teachers know that children need to understand their place in time and begin to comprehend how their lives are rooted in historical events. They use children’s ability to recount stories as routes to understanding the concept of chronology. Teachers of younger children might ask them to develop a timeline listing the events of a day, week, or even a whole school year in chronological order as a way of giving children insight into the concept of how people, objects, and experiences change over time. Teachers of older children might focus on the technological advances made throughout history, such as innovations in transportation or communication. Accomplished teachers might use examples of how people have mailed letters over time, from the pony express to e-mail, to illustrate some of the ways that science and technology changed the lives of children’s ancestors and continue to affect society today. Teachers help children develop a historical perspective on how our world is continuously evolving, and yet remains the same in many ways.

Accomplished early childhood teachers use developmentally appropriate strategies to help young children develop geographic concepts, and they provide opportunities for children to consider spatial relationships as a precursor to understanding the concept of location. Teachers find concrete ways to explain how people all over the world are connected to one another, including through the global economy. Teachers might prompt children to examine the labels on items such as their backpacks or their clothes to identify where they were made, and then pinpoint the items’ sources on a globe or a map. Teachers might take children on walks to learn about their neighborhood, using directional words such as “left” and “right” or “north” and “south” to describe the orientation of traffic signs, buildings, and people. To make these experiences even more meaningful, teachers might help children subsequently construct a model or map of the neighborhood and discuss what they observed.

Accomplished early childhood teachers use the concepts of civics and government to help children understand that in their learning communities, just as in their homes, there are rules, rights, and responsibilities that allow the members of the group to interact successfully. Teachers might regularly schedule meetings in which children interpret the classroom codes of conduct and discuss how to resolve issues. Teachers might guide children through the process of creating their own set of behavioral expectations and appropriate consequences for the classroom.

Accomplished early childhood teachers know that young children may be aware of and concerned about problems in their neighborhood or issues they have heard about through various media. Teachers help younger children begin to understand the role that local agencies such as fire and police departments play in addressing such problems. Teachers of older children help them understand the levels and functions of government and envision their role as citizens. Addressing issues related to governance helps children learn to solve problems in a way that benefits both themselves and the community.

Accomplished early childhood teachers help young children explore the principles of economics in the context of familiar experiences. For example, teachers might organize play stores, restaurants, and other appropriate economic venues to illustrate principles related to resources and consumption. Teachers might prompt children to create a class town with its own monetary system designed by the children, or might set aside certain days on which children are allowed to set up a business to sell something such as a craft item. Accomplished teachers hold discussions on such concepts as trade, wants and needs, supply and demand, and consumers and producers in order to help children understand that economics is part of everyday life.

Visual Arts

Accomplished early childhood teachers sensitively interpret the ways young children use symbols and patterns of artistic expression to communicate their ideas and feelings. They promote children's awareness and creation of the visual arts in ways that are developmentally and culturally appropriate. Teachers have a broad background in the arts which allows them to make visual arts an integral part of the early childhood curriculum; they are familiar with the unifying concepts of the visual arts, which include color, texture, line, symmetry, light, and shape. They are also familiar with various visual media, including drawing, painting, sculpture, and film, and they know some of the history of art in cultures throughout the world.

Accomplished early childhood teachers understand that creativity is at the heart of children's artistic expression. They provide opportunities for each young child to experiment with various tools, processes, and media, and they mirror children's joy and excitement as children share their resulting artwork with others. Teachers use art materials, media, and concrete props with children as catalysts for talking and thinking about compelling design questions. They support artistic investigation and provide opportunities for children to observe, reflect, explore, and create using the visual arts. Accomplished teachers understand the ways in which eye-hand coordination and body-brain development are enhanced when children explore the visual world, and they can explain the many benefits of the visual arts to colleagues and families.

Accomplished early childhood teachers help children look at art, talk about art, create art, and develop an awareness of the visual arts in their everyday lives. They create environments in which play, both natural and virtual, serves as a context for engaging in artistic activities. Teachers help children analyze and evaluate the visual arts. For example, accomplished teachers of younger children might have them peruse multiple books by a single illustrator to highlight the use of color or line, whereas teachers of older children might engage them in comparing styles among multiple illustrators.

Accomplished early childhood teachers help children understand that there are many valid aesthetic approaches and responses to the visual arts. Whereas some children may consider a particular work of art appealing, others may find it unsettling.

Teachers use examples from a variety of cultures to expand children’s understanding of different approaches to beauty and aesthetic expression. They also help children appreciate beauty in the world around them and begin to manipulate their own aesthetic environments. For example, children may be encouraged to select and display their work throughout the community. Accomplished teachers value each child’s developing appreciation of the visual arts and incorporate children’s artwork in the classroom.

Accomplished early childhood teachers use the visual arts to extend other aspects of children’s learning. They seek opportunities to creatively integrate visual arts content and skills in children’s daily activities and learning. For example, in mathematics, teachers may have children draw or paint patterns. In social studies, children might design a flag or represent an aspect of their culture through various artistic media.

Music and Drama

Accomplished early childhood teachers recognize that the performing arts enable forms of emotional expression that may not be available in other parts of children’s lives. They strive to support meaningful and developmentally appropriate opportunities for children to engage in both drama and music. They design activities that reflect the diversity of the children in the educational setting and the local community, and they involve families in performing arts activities.

Music is one of the first ways children experience communication—through lullabies, rhymes, or simple humming. Accomplished early childhood teachers know that music brings people together through song, movement, communication, storytelling, and performance. They provide young children with multiple opportunities to explore music through singing, dancing, and listening as well as through the use of instruments. Early childhood teachers use music to enhance learning and development across the curriculum, and as a medium to develop skills such as body coordination and awareness, language, reading, memory, spatial reasoning, number concepts, and timing. Accomplished teachers also use music as a mnemonic device when teaching concepts such as counting, colors, relationships among ideas, and social skills.

Accomplished early childhood teachers know that listening is a fundamental musical skill to develop in young children. Listening is a nonthreatening way for a child to participate in music because no performance is involved, and listening to music helps children learn patterns of sounds and rhythms. Teachers provide frequent opportunities for children to listen to and appreciate music so that they can expand their store of musical experiences and develop a vocabulary for talking about music. Teachers introduce various rhythms, melodies, and tones and help children to discriminate differences in pitch, beat, and volume. They select music that represents the vast range of human experiences and musical traditions. Accomplished teachers also use music to enhance the study of other cultures and languages and to help children appreciate various musical forms and styles.

Accomplished early childhood teachers are familiar with the basic elements of music: rhythm, tempo, pitch, tone quality, dynamics, and harmony. They understand that music is a uniquely human enterprise which represents cultural, patriotic, and religious values; as well as the sense of a particular time or place and widely shared emotions and experiences associated with music. Teachers strive to integrate elements of music into the curriculum and daily routines. Accomplished teachers know that by listening to music, singing, playing instruments, and moving to music, young children develop healthy ways to interact and express themselves.

Accomplished early childhood teachers provide time, space, and materials so that young children can explore sounds and rhythms. Teachers provide young children with opportunities to practice vocal and instrumental sounds through solos and ensembles. Most children spontaneously express whole body rhythm activities through creative play, and accomplished teachers use this expressiveness as a transition to drama and the performing arts. They encourage children to create and move to music as well as listen to it. They may provide opportunities for children to express themselves by singing and playing musical instruments. Teachers help children to improvise short songs and instrumental pieces using a variety of nontraditional sounds such as paper tearing or pencil tapping; body sounds such as hands clapping or fingers snapping; and electronic sounds such as keyboards or synthesizers.

Accomplished early childhood teachers understand that drama is a process through which individuals enact ideas, wishes, and conflicts, often in symbolic form. They are familiar with the basic elements of drama, including plot, theme, character, language, music or rhythm, and visual elements such as scenery, costumes, and props.

Accomplished early childhood teachers know that acting out stories is characteristic of young children, and they understand that drama is one of the primary ways in which children learn about life. By creating and reenacting situations, playing different roles, exploring different viewpoints, interacting with peers, arranging the environment, directing the course of the action, and solving problems, children can make sense of their world. Teachers understand that for young children, drama is primarily an improvisatory process that fosters the physical, social, and emotional exploration of unfamiliar or challenging concepts or experiences within a safe environment. Accomplished teachers enhance the learning potential of dramatic play by encouraging children to reflect on the options they explore and the decisions they make.

Accomplished early childhood teachers design and select dramatic activities using their knowledge of child development, individual children, and the community in which children live. They provide opportunities, ideas, and props that extend play, develop imagination, and encourage creativity. They provide children with opportunities to use the processes of drama to extend learning in the subject areas. They choose activities that foster teamwork, character building, empathy, self-confidence, speech and language development, imagination, problem solving, memory, aesthetic appreciation, and fun. They encourage children to explore diverse

roles, viewpoints, and motivations; to listen carefully to and interact sensitively with peers; and to adapt the environment to their imagination. Accomplished teachers guide older children in their ability to identify and compare similar characters, settings, and situations in dramatizations.

Health Education

Accomplished early childhood teachers are committed to promoting young children's health and well-being, and they place children's well-being at the center of the health curriculum. Teachers know that wellness results from the integration of the physical, cognitive, linguistic, emotional, social, and moral-ethical domains, and that daily practice of the basic health skills of communication, decision making, goal setting, stress management, and conflict resolution helps young children to be healthy. Accomplished teachers understand that good health supports children's progress in all areas of development and learning.

Accomplished early childhood teachers plan positive routines for play, work, rest, hygiene, and social interaction throughout the day. They implement skill-based instruction in health during play, meal, rest, and transition times. Teachers educate young children about their need for movement and play and help them develop effective strategies for maintaining wellbeing. Accomplished teachers teach and model daily health habits in nutrition, safety, hygiene, physical activity, relationships, rest, and quiet time.

Accomplished teachers plan opportunities for young children to explore the unifying concepts of health, such as the influences of families, peers, media, culture, technology, prevention, and habits, to inform their health practices. Through instruction augmented by cues to action and ongoing feedback, teachers provide young children with opportunities to practice daily routines for personal health. For example, teachers may cue children to set goals for how many fruits and vegetables to eat every day and set goals for brushing teeth twice a day. They also encourage children to verbalize their needs, wants, and feelings in healthy ways, and have children differentiate when to make health-related decisions individually or with trusted adults and community helpers.

Accomplished teachers use instructional strategies such as graphic organizers, checklists, and hypothetical situations to help young children think about their personal health choices such as refusing offers of tobacco and alcohol or dialing 911 in emergencies. When young children are encouraged to share their reasons for healthy behaviors, they may be more likely to reduce health risks. Teachers might also use cooperative learning, problem-based learning, or service learning to support health practices across the curriculum and advocate for personal, family, and community health.

Accomplished early childhood teachers are committed to ensuring children's safety. They equip children with the skills and knowledge to be safe on the playground, in the classroom, at home, in their neighborhoods, and online. They shield children

from harm and readily educate and warn them about unsafe activities and hazards in the immediate environment. Accomplished teachers might use roleplaying, discussions, or modeling to empower children to say no to safety hazards, inappropriate touches, or unsafe acts.

Accomplished early childhood teachers are aware of patterns of behavior that indicate health-related issues, and they are alert to any shifts in young children's behavior, appearance, emotions, or academic performance that may signal problems. If they notice any potential warning signs, they follow up with detailed observation and then talk with children and, as appropriate, with families. Teachers pay close attention to children's health questions and concerns. They cautiously evaluate situations and then, based on their interpretation of the information they have gathered, they determine appropriate next steps. Teachers access up-to-date health-related information, products, and services to promote child health, and they team with other health and educational professionals to coordinate the necessary supports for each child.

Accomplished early childhood teachers reach out to families to promote healthy habits for young children and communicate with families to share information on developmentally appropriate health habits and wellness routines. Accomplished teachers can inform parents about the latest findings on the role that health plays on cognitive growth and development. They encourage parents to set goals to reduce the number of hours children spend in passive play with media and to increase the time children spend being active in order to increase focus and to reduce stress. Accomplished teachers work with families to encourage children to get sufficient sleep and adequate nutrition in order to be alert and ready for learning.

Physical Education

Accomplished early childhood teachers know that physical education has an important impact on the development of the whole child. They understand that gross- and fine-motor skill development, healthy lifestyles, body coordination, and social skill development are essential to growth. They are familiar with research showing that physical fitness supports children's academic progress, improves posture, and helps address the issues of childhood obesity, attention to task, and classroom behavior. Teachers provide well-balanced physical education programs in order to promote the well-being of children including lifelong physical fitness. They are advocates for physical education and ensure that children engage in movement activities through informal as well as formal means. For example, young children might explore shapes made by their bodies while balancing on one arm and one leg, or might move with varying speeds through circular pathways while manipulating a ball or scarf. Accomplished teachers might engage students individually or in groups to explore other movement concepts using equipment, props, artwork, stories, and music to inspire movement.

Accomplished early childhood teachers are familiar with the essential principles of physical education including intensity, frequency, duration, and patterns of

movement. They know that children typically use a variety of games, sports, dance, and fitness activities to express energy and emotions and to explore body awareness. Accomplished teachers use direct instruction with specific feedback to help children practice and integrate a variety of psychomotor skills such as running, walking, skipping, kicking, and jumping. Accomplished teachers provide a variety of physical activities to increase children's coordination, balance, agility, spatial orientation, sensory development, and kinesthetic awareness. For example, they might use stability balls and balance boards to stimulate the body in ways that increase opportunities for sensory integration, which in turn maximizes children's growth and development. Children who are active on a daily basis can increase their confidence and understanding of who they are and how they grow.

Accomplished early childhood teachers provide sufficient time and varied settings for children's physical activities in the classroom and beyond, such as during recess, physical education, and outdoor field days. Teachers of younger children know that appropriate and frequent periods of physical activity are essential for developing fine- and gross-motor skills, including cognitive skills, and for satisfying the young child's need to be active. Teachers are creative and imaginative in seizing opportunities to have children dance, mimic animal movements and move during transition times by hopping, crawling, or dancing to the next activity. They ensure that children have appropriate supervision, and they model physical activity patterns for children.

Accomplished early childhood teachers recognize that children have different needs and limitations and that no two children are at the same level of physical development at the same time. Teachers accept children as they are and give them the experiences and opportunities necessary to learn the skills they need. Teachers work with physical educators, physical therapists, occupational therapists, nurses, and parents to provide movement and fitness opportunities for all children. Accomplished teachers also help all children understand how to work and play with others who have physical or sensory limitations.

Accomplished early childhood teachers understand that games and sports help to teach rules and regulations as well as dispositions for cooperation, respect, and sportsmanship. Teachers provide time for cooperative and competitive games, outdoor play, movement relays, and free-choice activities as important ways to increase personal and social interactions and to help release tension in an enjoyable context.

Technology

Accomplished early childhood teachers use pedagogies that support young children in learning how to use technology as a tool and how to become critical consumers of technology. They evaluate technology as critically as they would any other learning resource, applying such criteria as whether or not the content is developmentally appropriate; linked to curriculum, goals, and learning standards; flexible enough to accommodate the individual needs of all children; and appropriate given the cultural

context of the community, families, and children with whom teachers work. Teachers are purposeful in making decisions about when and how to use technology as a vehicle for learning.

Accomplished early childhood teachers are competent with an array of technology, including visual, audio, and assistive technologies as well as computer software and hardware. They are aware of the ever-changing nature of technology, and they stay abreast of new technological developments. Teachers know that technology, used appropriately, has the potential to positively influence children's development and learning.

Accomplished early childhood teachers understand the importance of interacting with young children as they explore technology, not only to protect the devices and ensure child safety, but to expand the learning opportunities that the technology offers. Teachers use various forms of technology to enhance children's natural sense of curiosity and ability to learn. Accomplished teachers understand young children's attitudes toward technology and their ability to interact with it. They also know how young children tend to engage with and think about technology and are familiar with the problems that children typically encounter. For example, an older child may think that calculators always provide the right answers, and a younger child may experience dissonance between the movement of the mouse on the table with the movement of the cursor on the screen. Accomplished teachers anticipate and resolve such issues.

Accomplished early childhood teachers show children how to use technology throughout the curriculum to identify, organize, communicate, collaborate, create, illustrate, demonstrate, research, and collect data as well as to produce presentations, artifacts, and documents. Accomplished teachers ensure that children understand how to use technology safely and cooperatively. Teachers can discuss technology using terminology that is both developmentally appropriate and accurate. They facilitate children's use of technology to communicate within and beyond the classroom walls, to work collaboratively, and to support individual and group learning. Accomplished teachers find ways to personalize technology to assist the learning of each child.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Early Childhood Generalist Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EC-GEN.pdf>

GENERALIST (MC) <i>Middle Childhood</i>	NOTES
STANDARD IV: Knowledge of Content and Curriculum	
OVERVIEW: Accomplished teachers draw on and expand their knowledge of content and curriculum to determine what is important for students to learn and experience within and across the subject areas of the middle childhood years.	
<p>Introduction</p> <p>Accomplished middle childhood generalists have a strong understanding of content and a disposition that compels them to deepen and extend their subject area knowledge while refining their pedagogy. Teachers know that essential to the development of a sound teaching practice is the firm foundation of the major concepts, methods, and modes of inquiry in the subject areas that constitute a common curriculum: English language arts, mathematics, science, social studies, the arts, and health and wellness. Although generalists cannot be expected to have a specialist’s in-depth focus on subject knowledge in every aspect of the curriculum, they do possess a solid base of understanding, as well as the interest and desire to expand their knowledge on their own and in the company of their colleagues and students. Such teachers routinely make connections among topics, concepts, and understandings within and across disciplines. They model the use of content-specific language, vocabulary, and skills and provide real-world applications which relate academic contexts to college- or career-related situations.</p> <p>Accomplished teachers are passionate about engaging students in learning. They strive to meet and exceed curricular standards and expectations, using varied assessments to monitor their students’ growth. They employ creativity and imagination to explore new and intriguing learning paths that extend their students’ pursuit of knowledge even further. It is precisely this type of excitement for learning that helps accomplished teachers establish high standards for student investigation. They adopt inquiry-and problem-based approaches and use technological tools as appropriate to help students construct meaning in context and apply critical thinking skills. Middle childhood teachers involve their students in determining the direction of their education. To make instruction relevant and foster students’ natural curiosity to learn, teachers select instructional resources that relate to their students’ interests, cultural identities, and social contexts in meaningful ways. Accomplished teachers take advantage of new opportunities for learning that emerge during instruction, exploring questions and topics based on class interest. (See Standard V—Instructional Decision Making.)</p>	

Careful reflection helps accomplished teachers contemplate how skilled instructional decision making can better prepare them to capitalize on spontaneous opportunities that may positively transform students' learning and involvement. They consider how to manage, address, or avoid situations that have a negative impact on teaching and learning and how to embrace situations that lead to deeper understandings. Teachers know that unscheduled events and unexpected opportunities can arise during planned learning experiences and that these situations may provide valuable sources of information about teachers and their students as well as chances to promote student engagement, growth, and understanding. Accomplished teachers analyze their teaching systematically to evaluate the unanticipated decisions they make and the impact that these decisions have on their students' ability to achieve curricular expectations and fully participate in the life of the class.

Using a wide variety of strategies and techniques, accomplished teachers design instruction characterized at once by its structure and flexibility, planning, articulating, and coordinating activities to meet their goals. Middle childhood generalists adapt their instruction of subject matter as informed by contexts and student needs.

English Language Arts

Student mastery of the language arts is essential to success in all subject areas as well as inquiry learning, critical thinking, and problem solving. Accomplished teachers know effective strategies and skills that support reading, writing, speaking, listening, viewing, and multimodal representation. They understand how children acquire and become adept at using oral and written language. Teachers recognize that language is socially, politically, historically, and culturally defined and that its use can vary by ability, gender, region, socioeconomic status, education, and culture. They therefore provide instruction that includes a wide variety of textual materials to appeal to their students' interests while furnishing them with access to information that will help them navigate the world in which they live.

Accomplished teachers draw on students' cultural and linguistic experiences as resources for enhancing their communication skills. They employ strategies, adaptations, and resources designed to aid language and literacy development based on students' specific strengths and needs. With students for whom English is a new language, teachers are aware of second language acquisition techniques and thus recognize that a student's first language can be used to support the transference of English communication skills. Accomplished teachers advocate for these students and work to obtain the necessary resources for their acquisition of language.

Accomplished teachers provide balanced literacy programs that may include diverse structures such as collaborative or independent reading from a variety of genres. Whether students are emergent, early, or fluent readers, teachers incorporate reading strategies that build on students' strengths and meet their needs to construct meaning. These programs may include careful use of skills and strategies for word identification, vocabulary building, comprehension, critical thinking, and fluency.

Teachers also provide a number of real and significant opportunities before, during, and after reading for students to express themselves orally and in writing. These processes help students become articulate about the content being studied while developing their analytical skills and building a curiosity that motivates independent exploration.

Accomplished teachers advance their students' development of communication skills through the mutual reinforcement of reading, writing, speaking, and listening. Teachers regard these communication skills as reciprocal processes that result in the construction of meaning. They understand the vital role that oral language plays in learning and know that oral and written language are best learned in language-rich environments that provide opportunities to vary language use depending on audience, situation, and purpose. Accomplished teachers employ a variety of methods for students to explore written and oral language so they can communicate effectively in society and achieve personal goals. Teachers also emphasize the importance of critical listening so that students understand that listening well contributes to effective communication and thorough understanding. They are adept at teaching their students how speaking relates to writing and how to recognize and use the conventions of written English. Developing these skills contributes to the proficiency of students as readers, writers, speakers, and viewers.

Accomplished teachers instruct students to approach writing as a means of communicating with others as well as a means of self-expression. They scaffold students' learning through strategies such as modeling, teacher-guided and group-assisted writing activities, and individual student conferences to advance student facility with different steps of the writing process: prewriting, drafting, revising, editing, and publishing. They understand that writing can help develop thinking skills, facilitate personal expression, and enable students to explore the use of different voices and purposes for different audiences. Making use of available instructional tools, they provide students with many opportunities to apply written language skills across curricula using traditional or electronic means—writing explanations of solutions to mathematical problems; writing a research report for science; writing an editorial about a social studies issue; critiquing art; creating stories, poems, or plays; or submitting queries or comments to Web sites. They employ a number of ways to involve their students in meaningful representations of ideas and concepts.

Accomplished teachers facilitate meaningful communication and provide opportunities for students to express themselves orally as individuals, group members, and leaders through activities such as presentations, speeches, debates, and panel discussions, as well as through the use of digital media. They help students understand and appreciate diversity in language and communicative styles, and they model the fluent use of spoken English. Teachers know and stress to their students when to use formal or academic English to promote greater access to personal success, civic influence, and financial independence. They are also aware that having a shared form of English facilitates communication across societal divisions. However, they respect that dialects or languages may be important to students' home and community lives and understand that these contribute to students' learning and

feelings of belonging. Consequently, while protecting the integrity of their students' primary dialect or language, they help every student gain command of academic English.

Accomplished teachers are extensive readers, and they know a wide range of children's and young adult literature that includes both fiction and non-fiction texts. They provide students with access to a variety of classic and contemporary texts in various genres, including fables, folktales, myths, biographies, and works from varied perspectives and different ethnic and cultural traditions. These texts represent a range of subject-matter areas, styles, and communicative purposes. Teachers might challenge any prejudices that students hold with a study of texts that counter stereotypes. Teachers use a broad base of texts to develop students' analytical skills and strategies as well as their aesthetic capabilities. For instance, students might study advertisements to analyze media critically and understand the persuasive properties of advertising. The students of accomplished teachers learn to read for different purposes, such as deriving factual knowledge, attaining critical understanding, and seeking personal enjoyment.

Accomplished teachers introduce students to the interpretation of a wide variety of fiction and nonfiction, thereby helping them understand how authors organize and express ideas for different purposes using various forms and text structures. Teachers help their students employ text structures to aid their comprehension of dense, disciplinary texts. They provide opportunities for students to generate written texts, such as experimental reports that include content vocabulary, symbols, charts, graphs, and visualizations. These teachers enrich their curricula by supplementing printed texts with various media and the arts, which reinforce the need to read, view, and listen critically. Teachers encourage students to generate multiple interpretations and provide rationales for their conclusions. They also act on students' interests to design meaningful projects and provide choices for independent reading. Consequently, teachers foster students' abilities to understand multiple perspectives while instilling within them a lasting love of reading.

Accomplished teachers are adept at implementing multiple assessments and opportunities to observe students' progress in reading, writing, speaking, listening, viewing, and multimodal representation. They evaluate their students' current strengths and determine what they need to learn next. Teachers know that language is learned through approximation and that making mistakes is an integral part of learning. They provide students with multiple opportunities to demonstrate what they know, what interests them, and how they interpret texts. They provide students with chances to engage in self-assessment while receiving constructive feedback from their peers and teachers. Accomplished teachers excel at using a wide range of response activities, such as journals, dramatic productions, informal presentations, and report writing for the purpose of ongoing assessment. These and other activities provide teachers numerous opportunities to differentiate processes as they measure student understanding and determine the extent to which students are reaching immediate and long-term instructional objectives.

Accomplished teachers incorporate their students' language skills and strategies into other areas of their curricula. They understand that reading, writing, speaking, listening, viewing, and multimodal representation are employed throughout school curricula, and they emphasize their usefulness in all subject areas as well as nonschool settings. Teachers also understand and communicate to their students the importance of multimedia literacy in an information-rich, global society. They design significant tasks across curricula that help students appreciate the usefulness of reading, writing, speaking, listening, viewing, and multimodal representation as tools for learning, as ways of acquiring and organizing new information, and as a means of enjoyment.

Mathematics

Accomplished teachers have a command of the mathematical content knowledge required to teach students ages 7–12 and beyond. They know and understand the major concepts and procedures that define number, including operations and the problems they solve, geometry, measurement, and statistics and probability. They are also cognizant of algebraic thinking topics that include work with patterns, expressions and equations, functions, and ratio and proportion. Teachers are well versed in important mathematical practices, particularly the critical role of problem solving and reasoning in mathematics teaching and learning. They routinely stress the importance of problem solving and encourage their students to make sense of the problems they are solving and to persevere in solving them.

Accomplished teachers recognize that an important, albeit sometimes unwritten, expectation of mathematics learning at these levels is the development of number sense. This instructional trajectory begins with counting and advances to include place value, operations, mental mathematics, and estimation, all directed toward computational fluency with whole numbers and fractions (defined here as a/b fractions, decimals, and common percents). Mathematics at these levels includes important geometric concepts and vocabulary involving shape, as well as applications involving measurement, such as perimeter, area, and volume. Problem-based contexts provide students with opportunities to gather and analyze data. Teachers at these levels also know that much of their work with early algebra, including expressions, equations, and functions, serve as foundational building blocks to more formal experiences in algebra at the middle and high school levels.

Accomplished teachers comprehend how knowledge in mathematics is organized and sequenced and how it is connected to other subject areas. Teachers recognize that how children learn mathematics and which mathematics children should learn are topics of ongoing research. They know how to build on children's informal understandings as a link to more formal mathematics. For example, they may share eight objects among three students to have them think about how to use division and to help them understand fractions and mixed numbers. Accomplished teachers know that mathematics learning is critical. They serve as advocates to ensure that all students have access to meaningful mathematics instruction, which is instrumental for achieving success in other subject areas.

In the classrooms of accomplished teachers, students are engaged through a variety of activities that reinforce the concepts and skills they are learning. For example, a teacher may provide student groups with 3 meters of yarn and ask them to create shapes and determine the shape with the greatest area. Another activity would be to have students determine the best bargain for buying a beverage: five bottles for \$12 or two bottles for \$5. Teachers encourage students to explain their thinking by discussing their reasoning. Students thereby construct viable arguments by collaborating and interacting with one another as they solve problems and discover the impact of mathematics on their lives. Accomplished teachers help students recognize that there are multiple ways to solve many problems and that thinking through and explaining a problem is as critical as providing the correct solution.

Recognizing the significance of mathematical language, accomplished teachers provide students with ways to link mathematical vocabulary to important expectations. For example, teachers may have students use journals to record mathematical vocabulary using words, pictured representations, or equations. An entry for the distributive property might appear as follows: $23 \times 8 = (20 \times 8) + (3 \times 8) = 160 + 24$, and could also include a visual representation using a bar or box diagram.

Accomplished teachers use classroom resources in an effective manner. These resources include, but are not limited to, textbooks, supplemental resources, manipulative models and materials—hands-on and virtual—and technological tools. They are comfortable using a variety of manipulative and pictorial representations to establish conceptual understandings and help students connect concepts to procedures. For instance, teachers might have students use base 10 blocks to represent tenths and hundredths when learning about decimals or use a number line or rectangular regions when comparing fractions. In addition, accomplished teachers can readily locate or create problem solving tasks that challenge their students and extend their mathematics learning to higher-level concepts or connect them to other mathematical topics and subject areas. Teachers are acutely aware of the need to prepare students for a more global and technologically-rich society. They understand and use emerging technological tools to expand and enhance their pedagogy accordingly. These tools may include Web sites, virtual models and manipulatives, online texts, or spreadsheet applications.

Adept at diagnosing learner needs in mathematics, accomplished teachers provide interventions and accommodations accordingly. They recognize and value the different ways that students think and interpret mathematics, and they take these differences into consideration when creating classroom learning environments. These environments support and encourage the development of mathematical practices that include making sense of problems, reasoning through mathematical situations, and constructing viable arguments. Importantly, accomplished teachers realize that an approach to mathematics learning that is engaging, challenging, and problem-based is critical for their students to develop and maintain a positive disposition toward mathematics.

Science

Accomplished teachers understand that an education in the sciences helps students develop scientific habits of mind while gaining the knowledge and skills necessary to become scientifically literate. They realize that scientists and children use inquiry-based processes to discover and construct meaning. They foster the innate curiosity that children possess to help them become inventive, reflective, and skeptical thinkers, open to new ideas and willing to experiment and take risks.

Accomplished teachers know the four domains of science and introduce their students to these domains based on their curricula: earth and space science, life science, physical science, and engineering and technology. They know that a synergy exists between these domains and that engineering is the application of scientific knowledge to solve problems. When designing activities to help students understand these domains, middle childhood generalists teach concepts that appear across them—pattern, similarity and diversity; cause and effect; scale, proportion and quantity; systems and system models; energy and matter; form and function; and stability and change. Teachers integrate domains and concepts to help students develop a comprehensive understanding of science.

Knowledge of science enables accomplished teachers to encourage students to observe, generate questions, predict, explore, experiment, discuss ideas, interpret data, and draw conclusions around fundamental scientific concepts. As students design and perform experiments, they may employ problem-solving, critical thinking, and mathematical and measurement skills; they may also use computation, graphing, data collection and recording skills, tools and technology, oral speaking, writing, collaboration, and research skills. For instance, to understand the concept that air contains water molecules, students might perform an investigation to discover why the outside of a cold container shows water droplets when placed in a warmer environment. These experiences allow teachers to address misconceptions and help students better understand natural phenomena.

Accomplished teachers capitalize on students' prior knowledge as they design a rich array of open-ended experiences that integrate knowledge and practice and allow students to engage in cognitive, social, and physical practices, to formulate critical questions, and to follow their interests. For example, an accomplished teacher might guide students in designing an experiment to discover if light refracts when moving from one medium to another. Through experimentation, the teacher facilitates student understanding of refraction and how to observe and record results. The teacher purposefully plans instruction that leads students to discover unifying concepts and generate questions for further experimentation. Accomplished teachers know that "doing science" is not limited to direct experimentation but also includes sharing ideas with peers through discourse, using content-specific vocabulary, and developing representations of phenomena.

Accomplished teachers understand that science is a collaborative exchange. Throughout classroom activities, teachers model how to use scientific and

mathematical language appropriately and measure students' ability to do so. They facilitate the appropriate use of scientific vocabulary in discourse and argumentation. Students collaborate as they experiment and share problem statements, observations, and conclusions. They also learn to participate in scientific discussions, to adopt a critical stance while respecting the contributions of others, and to be willing to ask questions and revise opinions.

Accomplished teachers help students use texts to become scientifically literate, to increase scientific knowledge, and to improve language art skills. Teachers assess students' learning as they listen and participate in discussions between and among groups of students. They may also evaluate students' understanding of science and engineering as they review students' work such as journal entries, lab reports, physical models, and responses to assessments. Teachers recognize that providing prompt feedback is essential to fostering and expanding students' thinking and facilitating further investigation. They are aware of students' preconceptions and misconceptions. When these arise, teachers respond in a timely manner to guide students to experiences that will help them correct their misunderstandings. Teachers help students understand that scientific thinking has changed over time and that scientific knowledge will continue to change. (See Standard V—Instructional Decision Making.)

Accomplished teachers provide a balance of factual information and hands-on experiences to nurture a greater understanding of science and engineering. They teach students to use tools such as microscopes, rulers, computers, and graduated cylinders in the process of doing science. Teachers know that creating representational models such as pictures, diagrams, physical models, mathematical models, or computer simulations can help students refine their mental models and thereby internalize scientific concepts and build meaning. For example, a teacher might help students understand scale better by relating familiar objects such as marbles, pinheads, and balls to objects in the solar system. The teacher could then have students pace the relative distance of each planet to the sun. Accomplished teachers know that the use of models allows students to participate in rich discourse, refine their thinking, and solve problems.

Accomplished teachers help students connect earth, life, and physical science concepts and processes to real-life applications. They may use technology to research connections between and among disciplines, recruit speakers, plan virtual or actual field trips, enlist the support of families and community members, or provide other experiences that allow science learning to come alive for their students. They look for opportunities to expose children to career options in science as well. For example, when students are designing experiments to discover how plants grow in different light conditions, an accomplished teacher might invite family or community members to share how they use their knowledge of plants as they experiment and create hybrid varieties.

Accomplished teachers understand the similarities and differences between engineering design and scientific inquiry. They show their students that technology

and engineering employ scientific principles to create products and processes that meet human and environmental needs. For example, when discussing reliance on the limited supply of fossil fuels, students may employ the design process to develop innovative ways to address the problem. Accomplished teachers are resourceful and mindful of environmental issues. They are adept at creating learning experiences that show students their dependence on, and relationship with, their communities and the natural environment. For instance, they may have students investigate changing air and water quality and create solutions to problems based on inquiry and the use of critical thinking skills. Teachers help students investigate, understand, and learn about community and environmental stewardship.

Using their knowledge of child development as well as an understanding of content in all curriculum areas, middle childhood generalists employ many strategies and techniques to facilitate scientific learning. Experiences such as these not only tap into students' natural curiosity of the world and how it works, but also help these future stewards of the natural and technological world explore, understand, and contribute meaningful ideas and advancements.

Social Studies

Accomplished teachers have a strong foundation in the many disciplines that comprise social studies, such as civics, economics, geography, and history. They understand that social studies interconnects these disciplines to provide students with a broad basis for critical investigation and that this foundation will later enable students to pursue specific disciplines in greater depth. Each discipline represents its own area of knowledge based on research, theories, methods, themes, and concepts. Accomplished teachers understand that social studies is a core content area that interweaves these disciplines and presents students with a common means of understanding the human and physical worlds. They demonstrate their ability and skill to teach social studies by designing lessons that incorporate and interweave the disciplines. These lessons challenge students to build their knowledge and engage in higher level thinking.

Accomplished teachers understand the major issues, concepts, and themes in social studies, such as culture, technology and society, and global connections. They are also aware of the current issues and events in their communities, nation, and world. Teachers design lessons that require students to employ critical thinking skills as they gain an appreciation of these topics. Using available technology helps to make global connections possible. An accomplished teacher might collaborate with an English language teacher from Germany to conduct videoconferences between classes, thus providing students with opportunities to engage in dialogue with a peer group from another culture. Local resources can also help social studies concepts come to life. Teaching the economic concept of scarcity becomes tangible, for example, when a teacher has five water bottles for a class of twenty. How should the water be divided among the students? What is the value of each bottle? Is it the same for every student? These are the types of questions that students might pursue in small and large group discussions. Accomplished teachers use their content knowledge

to structure meaningful lessons and simulations for their students. They make sound curricular choices and design compelling instructional activities so that students may become informed, critical, and questioning citizens engaged in a global society.

Accomplished teachers realize that lessons become powerful when students can make connections to their surroundings, world events, and cultural environment. Teachers connect abstract concepts with concrete, real-world experiences. For example, after discussing the United States Bill of Rights, students could develop a children's bill of rights. When participating in discussion groups to determine which rights should be addressed, students may share personal opinions and learn to listen respectfully to the opinions of others. Further inquiry might require students to use their research skills to find the published version of The Children's Bill of Rights and compare this document to the one they have created. Acknowledging the viewpoints of others and respecting their rights are crucial responsibilities for a democratic citizenry.

Accomplished teachers use secondary sources such as textbooks, political cartoons, online stories, and magazine articles for students to acquire new knowledge and information, draw conclusions, assess perspectives, and think critically. They also use primary sources such as autobiographies, memoirs, oral histories, diaries, photographs, cultural artifacts, and other creative work to engage students in learning. For example, an accomplished teacher might have students listen to taped slave narratives from the National Archives while studying the Civil War. After a unit on immigration, another teacher may ask students to choose countries or cultures with which they identify and share the reasons for their connections. A student might decide to share a story related to Japanese heritage and describe the journey that student's parents took to reach the United States; this student might also bring photographs and artifacts from home to help illustrate this culture's influence on the student's life. These activities demonstrate personal connections to humanity's ongoing challenges and conflicts.

As accomplished teachers guide students through tasks such as recognizing propaganda and bias or discerning fact from opinion, they have them integrate skills like organizing, interpreting, critiquing, analyzing, and synthesizing across curricula to promote strong social studies programs. When studying world cultures, teachers may choose to read non-fiction picture books aloud and have students take notes on newly learned facts before writing an expository essay that incorporates previously learned knowledge as well. To extend this activity, students could analyze Web sites for bias and present their findings by creating products such as editorial responses that use appropriate citations.

Recognizing that social studies relates the social sciences with the humanities, accomplished teachers often extend student inquiries into the arts, religion, philosophy, science, and technology. This interweaving of subjects creates a stimulating environment. Students may address current and future global challenges while examining the dynamic interaction of human beings and their ethical dilemmas and choices. They may be asked to write essays discussing conservation efforts around

the world and offer their opinions on the most economically effective measures, using their social studies, science, and mathematics knowledge. Accomplished teachers create opportunities for students to use their information processing skills across curricula to increase their students' social science vocabulary, ability to read, critical thinking skills, and effective use of technology.

Accomplished teachers create integrated lessons to help students build a foundation of facts and information for their exploration of social studies. With an acknowledgement of their biases and perspectives, teachers design activities that encourage respect for opposing points of view, appreciation of well-supported opinions, sensitivity to cultural differences, and commitment to the social welfare of communities. Teachers link new content with pre-existing knowledge and beliefs to help students make connections across curricula. They develop activities that encourage community involvement through which students may apply their knowledge to current, local issues. They provide experiences that feature active learning in small group settings to stimulate student interaction and collaboration. Accomplished teachers provide students with opportunities to develop a sense of belonging and heighten their awareness of the multicultural world in which they live so they may become engaged and empowered citizens.

The Arts

Accomplished teachers understand the intrinsic value of the arts and their usefulness in gaining insight into other disciplines. Dance, music, theater, and the visual arts individually and collectively contribute to the stimulation of imagination and cognitive growth while providing vehicles for creative expression. Teachers understand that the arts represent a unique human endeavor that enriches students' artistic heritages, tastes, and creativity, while nurturing divergent thinking and an appreciation for various forms of expression. They know that teaching about and through the arts helps students develop knowledge and skill sets that can challenge, expand, and enhance their lives; teachers include the arts in their classrooms for the aesthetic, intellectual, and perceptual value they offer. By including the arts on their own, with the help of subject-area specialists, or through available community resources, middle childhood generalists foster a thoughtful and interactive learning environment. They know that involvement in the arts will develop their students' thought processes, deepen their understanding of other academic areas, and promote their understanding of different cultures.

Accomplished teachers are willing to take risks to create environments that nurture their students' individual expression of, and experimentation with, the arts. Teachers may share their personal artistic perspectives with students as they provide them with the opportunities, resources, and encouragement they need to explore their emerging tastes. Teachers recognize the value of the arts in bringing pleasure, enthusiasm, and heightened motivation to their students. They help students develop skills in the arts for their inherent creative value and as a means of communicating about interests and issues important to them. They guide students in forming an appreciation of aesthetic values and the social and global uses of the arts by drawing

attention to similarities and differences in major ideas and themes. For example, to enhance a comparative literature unit on Cinderella stories from various cultures, an accomplished teacher might ask students to develop and perform a play to demonstrate a version of the tale they have written themselves. Teachers understand that the arts can offer a helpful way of assessing students' academic skills and abilities.

Accomplished teachers help students extend their study of other subject areas in creative and critical manners. They relate content to the arts and have students engage in various learning modalities by interpreting subject matter using alternative forms of expression. For example, teachers may provide students with opportunities to create visual poetry from typographical word arrangements or perform a kinesthetic representation or pantomime of plant growth from seed to maturity. To emphasize their students' understanding of other content area concepts, teachers might examine the relationship between mathematics and music by comparing metric beats with fractions or the similarities of pattern development in tessellations and the architectural wall renderings of the Alhambra in Granada, Spain. Accomplished teachers know that creating, critiquing, and evaluating in and through the arts help students interconnect the world they live in with more clarity. They also know that these experiences bridge the transfer of knowledge and understanding from one content area to the other through the integration that is facilitated by the arts and their connections to the global community that surrounds them.

Health and Wellness

Accomplished teachers understand that a comprehensive health education program encompasses the many components of wellness, taking into account students' social, physical, emotional, and intellectual well-being. These teachers advocate for and create safe and healthy learning environments, which may include access to water, hand washing before meals, healthy snacks, bully-free zones, and frequent physical activity breaks. Teachers create innovative opportunities for students to develop and practice health-enhancing skills through daily routines such as regular exercise, nutritious eating, conflict management, and the maintenance of positive interpersonal relationships. For example, they may have students move throughout the school environment in creative ways—instead of simply walking, they may hop or skip to use different muscle groups. Teachers may also show students how to manage conflict by using techniques such as “I-messages” to express feelings. They may have students manage their stress by learning strategies such as removing themselves from stressful situations, breathing deeply, taking walks, getting water, or speaking about their conflicts. Teachers also recognize that organizing time and resources can help students manage work-related stress.

Accomplished teachers are aware of the distinction between physical activity and physical education. They recognize that children need breaks from sedentary activities in the classroom. They plan activities that help develop students' motor skills so that students can enjoy physical activity and move toward health-enhancing levels of physical fitness. For example, teachers may have students move around

the learning environment throughout the school day, incorporating frequent activity breaks or transitions such as walking around desks, stretching to music, or running in place. Teachers may also integrate physical activity into subject content, for example, by having students use their bodies to demonstrate shapes or angles. Middle childhood generalists understand that children with physical challenges must work with specialists to address their specific needs. They also recognize that kinesthetic experiences and regular physical activity enhance academic achievement.

Accomplished teachers understand the foundations of good health, including the structure and function of the body and its systems and the importance of physical fitness and healthy eating habits. They know that the amount and type of physical activity that children require daily is critical to the maintenance of a healthy lifestyle. Based on this knowledge, they may have students wear pedometers or heart rate monitors to collect data regarding their physical activity; teachers may then have students record their physical activity minutes and create graphs, charts, or journal entries to track their performance and support discussion during mathematical or scientific activities. Similarly, accomplished teachers may have students talk about the number of fruits and vegetables they eat daily to think critically about whether their diet includes healthy foods. Teachers incorporate an awareness of healthy habits while engaging their students meaningfully in classroom activities across a range of subject areas.

Accomplished teachers help students understand that a healthy lifestyle is affected by the habits they develop and the personal choices they make. They may use children's fiction and nonfiction or other materials, such as stories, pamphlets, or nutritional labels, to discuss health issues such as friendship, bullying, or nutritional choices. Teachers are alert to major health issues affecting children and the social forces that influence them; they are particularly aware of the need to impart this type of information sensitively. Accomplished teachers establish safe learning environments for students to explore these health topics. They address issues in ways that help students understand internal and external influences, recognize potentially dangerous situations, clarify misconceptions, find reliable sources of information, make informed decisions, and set personal goals. Teachers may provide opportunities for positive peer pressure when role playing situations regarding the possible use of tobacco or alcohol—or when exploring the dynamics of bullying. Accomplished teachers present good health practices as an immediate and vital part of building lifelong habits they encourage students to adopt.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Middle Childhood Generalist Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/MC-GEN.pdf>

HEALTH EDUCATION (EAYA) <i>Early Adolescence through Young Adulthood</i>	NOTES
STANDARD II: Knowledge of Subject Matter	
OVERVIEW: Accomplished health education teachers have a deep understanding of the components of health and health content and their interrelationships.	
<p>Accomplished teachers of health education know the broad scope of their subject matter and understand that health education is comprehensive and sequential. This knowledge enables them to create and implement sound, comprehensive instructional activities and teaching practices that promote the development of health-literate individuals who are firmly committed to the benefits of healthy lifestyles. Teachers have a deep understanding of the relationships among the components of health—such as physical, mental, emotional, social, and spiritual—and how the components relate to the content areas of health education. Teachers can identify and address personal and family health issues, as well as health issues at local, state, national, and international levels.</p> <p>Knowledge of Content Areas</p> <p>For this document, health education has been organized into ten content areas. This list is not exhaustive, nor does it intend to exclude areas of knowledge that teachers might find appropriate for their individual teaching contexts. Rather, it broadly characterizes what accomplished health education teachers should know in order to enhance student learning.</p> <p>Accomplished health educators have knowledge of and can implement comprehensive instruction in personal health, nutrition, prevention and control of disease, injury prevention and safety, mental and emotional health, substance use and abuse, family life, community health, consumer health, and environmental health. Teachers have an in-depth knowledge of the variety of topics within each content area and how they interrelate, as well as familiarity with related resources and career opportunities.</p> <p>Teachers have a deep knowledge of personal health, which includes such content as wellness, physical fitness, hygiene (e.g., hand washing), dental care, and the need for regular medical examinations (e.g., ear, eye, and scoliosis exams) and self-examinations (e.g., breast and testicular examinations) to encourage lifelong health. Teaching about cardiovascular fitness, for example, requires knowledge of</p>	

exercise, nutrition, body systems and functions, disease prevention, and injury prevention.

Accomplished teachers know the major concepts of nutrition. They have a working knowledge of nutrients and related topics, such as food value, recommended daily allowances (RDAs), the food guide pyramid, calories, and food labels. They have knowledge of healthy food choices, disordered eating, the risks and benefits of nutritional supplements, and the relationship between dietary habits and healthy weight. They appreciate the global and cultural factors that affect eating behaviors and nutrition. For example, accomplished teachers can access data on nutrient levels of foods prepared in various cultures. Teachers understand food safety and its relationship to the transmission of diseases and the resulting impact on healthy lifestyles.

Health education teachers have a deep knowledge of communicable and noncommunicable diseases and their transmissions, signs, symptoms, sources, and prevention. They also understand that family history and personal behaviors play important roles in disease prevention. They know the effects that lifestyles have on chronic disease. For example, they know that sedentary habits, poor nutrition, and hereditary and cultural factors may influence the onset of Type 2 diabetes. They also understand that abstinence is the most effective means of preventing HIV/AIDS and other sexually transmitted diseases (STDs).

Health educators know about injury prevention and safety, including an understanding that certain behaviors reduce an individual's risk of injury. They understand the basics of first aid, cardiopulmonary resuscitation (CPR), and other lifesaving skills, such as the use of an automated external defibrillator. Teachers know a wide range of injury prevention-related information, such as bicycle, fire, water, and exercise safety. Teachers are familiar with current research and best practices related to the prevention of sexual assault; child abuse; and socially disruptive behaviors, such as bullying, harassment, gang participation, and violence. They understand, for example, that knowing the signs of abusive relationships can help prevent dating violence.

Accomplished health education teachers know that mental and emotional health includes knowledge of self-esteem, stress and anger management, suicide prevention, and coping with mental illness. They know that mental health encompasses the intellectual processes of reasoning, evaluation, curiosity, humor, alertness, creativity, logic, and memory. Teachers recognize the impact of internal and external influences on mental and emotional health. They know strategies for teaching the processes involved in making sound decisions, thinking critically, and managing emotions and stress. Teachers recognize signs and symptoms of depression and other mental illnesses and know how to make referrals for appropriate professional help.

Teachers of health education understand the short- and long-term effects of alcohol, tobacco, and other drug use on high-risk activities, physical tasks, and judgment. They understand the role of medicine in society and the characteristics of

informed decisions about legal drug use. They know, for instance, that teaching about drug use and abuse not only involves knowledge of such substances as alcohol, illicit drugs, over-the-counter drugs, and prescription drugs, but also makes connections to such issues as sexual decision making and violent behavior.

Accomplished teachers recognize the contribution of family life to a person's health. They have a deep knowledge of the stages of human growth and development throughout the life cycle, including those related to puberty, sexual development, and sexual orientation. They understand the function of relationships in achieving and maintaining health, including parent/child and sibling relationships and relationships fostered in dating and marriage. Teachers understand responsible sexual behaviors, including abstinence and contraception. They also understand the value of leisure-time activities that promote self-esteem and foster healthy and strong families.

Health educators recognize positive health practices that affect their schools and communities. They are aware of local health concerns and know the procedures and protocols to involve community entities, such as nonprofit organizations and governmental and social service agencies, in addressing local issues such as immunizations, teen pregnancy, HIV/AIDS testing, and domestic violence. Teachers bridge the relationship between school and community to promote health and wellness. As experts in their field, teachers understand the importance of extending the classroom into the community and using community resources in the classroom. Teachers may, for example, invite community service providers to exhibit at a school health fair or arrange for organizations to make presentations about health careers. (See Standard IX—Partnerships with Colleagues, Families, and Community.)

Accomplished teachers of health education know that consumer health relates to critical thinking, decision making, and the analysis of health-related information about products and services. Teachers understand the influence of media and commercialism in product selection, and they know how to access health care and strategies for exercising patient rights. Teachers are familiar with credible sources, such as the Web site of the Consumer Product Safety Commission, that can help make students informed consumers.

Health educators understand the multifaceted relationship between the environment and health. Teachers know the impacts that environment has on health, such as the effects of noise, air, land, and water pollution on the quality of life, and they recognize the correlations between individual actions and global concerns. Teachers know that certain behaviors, such as carpooling, promote a healthy environment. They also recognize the value of involving students in environmental health issues. Health educators may involve students in conducting an environmental health survey within the school, in taking part in community activities such as Adopt-a-Stream programs, or in measuring noise pollution using a decibel meter.

Dynamic, Relevant, and Practical Knowledge

The knowledge base of accomplished teachers of health education is dynamic.

Teachers identify and use resources—including technology—for accessing timely and accurate information to gain insight into emerging health-related issues, behaviors, and trends. To keep up to date, they collect, analyze, and apply current, credible, and relevant health research and information from such sources as Web sites, online databases, and professional journals. (See Standard XI—Reflective Practice and Professional Growth.)

Teachers have knowledge of the *National Health Education Standards*,⁴ as well as state and local health education standards, guidelines, or frameworks, and integrate them into their instruction. They know and use teaching strategies that merge health education standards and content. They are aware of the goals and objectives outlined in essential documents such as *Healthy People 2010*.⁵

Teachers are thoroughly familiar with the six adolescent risk behaviors identified by the U.S. Centers for Disease Control and Prevention (CDC).⁶ They understand the major health issues and social implications associated with tobacco, alcohol, and other drug use; dietary patterns that contribute to disease; sedentary lifestyles; sexual behaviors that lead to HIV infection, other STDs, and unintended pregnancies; and behaviors that result in intentional and unintentional injuries. Further, accomplished teachers know and can communicate to students the myths and facts about various aspects of health, especially those relating directly to young people.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Health Education Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EAYA-HEALTH.pdf>

⁴ Joint Committee on National Health Education Standards, *National Health Education Standards*.

⁵ U.S. Department of Health and Human Services, *Healthy People 2010*.

⁶ Centers for Disease Control and Prevention (CDC), *Assessing Health Risk Behaviors Among Young People: Youth Risk Behavior Surveillance System 2001* (Atlanta, Ga.: CDC, 2001)

LIBRARY MEDIA (ECYA) <i>Early Childhood through Young Adulthood</i>	NOTES
STANDARD III: Knowledge of Library and Information Studies	
OVERVIEW: Accomplished library media specialists understand and apply the principles of library and information studies to support student learning and to create an effective, integrated library media program.	
<p>The library and information studies field focuses directly on how to connect people with the information they need and want. Library and information studies encompass the creation, acquisition, organization, representation, storage, retrieval, management, and use of information in all formats. The field is concerned with the technologies that support these functions and with the strategies people develop and use to search for and locate the information they need to satisfy a wide range of needs. Accomplished library media specialists apply the principles of library and information studies to establish purposeful and integrated library media programs that meet the needs of the greater community. Poised at the intersection of information and technology, specialists are leaders in using information and communication technologies to support the library media programs.</p> <p>Knowledge of the Principles of the Profession</p> <p>Accomplished library media specialists recognize that knowledge of and adherence to the principles of the profession are the foundation upon which effective library media programs are built. This foundation guides specialists in their approaches to staffing, assessing, supporting, and administering library media programs. Specialists apply this foundation in developing curriculum, collaborating with others, delivering instruction, and assessing students' learning.</p> <p>Accomplished library media specialists use the principles of library and information studies to ensure that programs are meaningful, well-articulated, and connected to the learning community's ongoing needs and goals. Specialists understand how to create and manage collections that embrace intellectual freedom by incorporating diverse ideas, viewpoints, and experiences. Library media specialists are well versed in the research base of the profession, its strategic and long-range planning processes, methods of effective policy development, and best practices for program administration and maintenance. Fully aware of the fundamental relationships among reading, information literacy, and library media programs, specialists work effectively to inspire others to master concepts and skills related to multiple literacies.</p> <p>Knowledge of Effective Organization and Practice</p> <p>One responsibility of the accomplished library media specialist is to establish</p>	

procedures for selecting, storing, accessing, and retrieving information. Administrative responsibilities include the acquisition, processing, organization, dissemination, and maintenance of the collection. Each of these tasks is a necessary component of fulfilling the overall goal of providing efficient and effective physical and intellectual access to information and resources. Accomplished library media specialists know how to administer library media programs by developing collections of carefully selected resources that are organized, maintained, and targeted to contribute to student learning.

Knowledgeable about facility design and management, accomplished library media specialists recognize the necessity of meeting the diverse needs of members of the learning community. Specialists regularly involve others in discussing optimal facility use, and they understand the advantages of flexible scheduling, extended hours, and remote access to the library's resources. Specialists know how to use technologies to help create inviting and comfortable places to foster learning. For example, the accomplished library media specialist may recommend that wireless Internet access be available so that students can work in small groups throughout the school.

Accomplished library media specialists recognize research as a guide to practice. Specialists know how to employ evidence to guide decision making and policy formation within their learning communities. With a solid grounding in research techniques and an appreciation for conducting their own research, specialists strive to build programs that are innovative and progressive. For example, the accomplished library media specialist may use research on cognitive processing to design meaningful student self-assessments.

Knowledge of Collections

Accomplished library media specialists are well versed in a variety of resources in many formats for learners with diverse needs. Familiar with a wide range of children's and young adult literature, specialists demonstrate that they know how to select literature appropriate to learners' curricular areas, ability levels, languages, and personal interests. Specialists' understanding of current and emerging media formats underlies the selection of these resources to engage students. For example, students may create video book reviews for the library media specialist to upload to an online public access catalog.

Accomplished library media specialists understand the importance of multiple literacies and facilitate students' interaction with digital, visual, textual, technological, and other forms of information. Specialists recognize that the abilities to access, evaluate, and use information in all formats are critical information skills for students. Specialists match students with the appropriate resources in the proper formats to address their interests and needs and to maximize their potential.

Accomplished library media specialists recognize the value of professional collections for teachers and other staff members. Specialists use these collections

as sources of professional development for the learning community. Specialists are skilled in instructing staff in the use of information resources and in making these resources relevant to the curriculum. For example, accomplished library media specialists may alert faculty to professional journals newly available in subscription databases.

Knowledge of Information Seeking

Accomplished library media specialists are experts in methods of information seeking and retrieval. They are knowledgeable about a variety of models for information seeking and use, and they draw from these models to guide their own practice. They know how to integrate information seeking into the teaching of creative and critical thinking necessary for problem solving. Specialists are familiar with techniques to help learners articulate their information needs through reference interviews. Specialists instruct learners in effective strategies for identifying, retrieving, and evaluating information. For example, the specialist working with young children might teach students how to use the online catalog to find picture books that relate to their personal interests. The specialist working with upper elementary and middle school students may create a game in which students generate criteria for evaluating Web sites in their areas of interest. Specialists working with secondary students might guide them in using virtual reference services to retrieve targeted information related to their interests.

Accomplished library media specialists guide students in using information as a tool for learning, in assessing themselves on how well they have learned, and in taking responsibility for their learning. For example, library media specialists may direct students to appropriate resources by using pathfinders and support their self-reflection through the use of rubrics.

Knowledge of Information and Communication Technologies

Accomplished library media specialists demonstrate expertise in using technologies for information creation, storage, retrieval, organization, and communication. Specialists understand the architecture and use of information and communication technologies and how to use them for support, instruction, inquiry, discovery, and innovation. Specialists understand that learning has a social context, as well as an individual dimension. For example, the specialist may design student debate projects that make use of social media. In another instance, the specialist may work with students to create multimedia presentations about social justice, which they post online to share with the global learning community.

Accomplished library media specialists know about the full range of materials in print and digital formats, and they apply critical criteria for their selection, acquisition, classification, organization, dissemination, management, and maintenance.

Because new technologies related to library media emerge constantly, specialists are committed to seeking new knowledge and updating their existing knowledge to stay abreast of these technologies. Specialists participate in committees or teams to

inform members of the learning community about emerging technologies and how best to use such resources. While establishing programs that continually demonstrate effective collaboration, accomplished library media specialists establish information-rich environments that support their learning communities by using technologies creatively and ethically.

Knowledge of Ethical and Legal Tenets

Accomplished library media specialists believe that everyone has the right to equitable and open access to information, facilities, technology, and staff members. Specialists know the ethical codes of the profession and apply them within the context of school district policies and regulations regarding library media services. For example, the accomplished library media specialist may give a presentation at a faculty meeting about copyright and fair use of print and digital materials. Specialists respect and model the tenets of intellectual freedom, preserve the confidentiality of information requests, follow procedures for proper citation, and adhere to guidelines and laws governing intellectual property and fair use across all media. At the same time, specialists ensure that others understand the key principles of the profession and follow procedures regarding copyright, fair use, confidentiality, and intellectual freedom. (See Standard VIII—Ethics.)

Reflection

Accomplished library media specialists understand the importance of continuous reflection on their knowledge and understanding of the basic principles of the library and information studies field. Specialists are lifelong learners who reflect on how to effectively incorporate numerous and rapid changes in resources and tools into the library media program. They know how to evaluate the effectiveness of new resources and technologies as they strive to continually develop and improve the library media program.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Library Media Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/ECYA-LM.pdf>

LITERACY: READING-LANGUAGE ARTS (EMC) <i>Early and Middle Childhood</i>	NOTES
<p>Content Knowledge is included throughout the Literacy-Language Arts Standards. Sections from the following standards are included:</p> <p>STANDARD VI: Reading STANDARD VII: Writing STANDARD VIII: Listening and Speaking STANDARD IX: Viewing and Visual Literacy STANDARD X: Literacy Across the Curriculum</p>	
<p>OVERVIEW: Literacy teachers possess a deep knowledge of the processes of the language arts—reading, writing, listening, speaking, and viewing; they also understand how to teach literacy to students. They recognize the ways in which the separate literacy strands are intertwined, and they comprehend the interconnectedness of the language arts and all of the content areas.</p> <p><i>Introduction section, p. 13</i></p>	
<p><i>From Standard VI: Reading</i></p> <p>Accomplished early and middle childhood literacy teachers recognize the pivotal importance that reading plays in each child’s development. Literacy teachers understand that reading is a complex process and that successful readers employ a variety of strategies to construct meaning. Teachers are knowledgeable about the entire range of practices related to language development and the reading processes. Their instructional decisions are based on the needs of students, and these decisions are guided by literacy research and theories; by knowledge of children’s literature and other texts; and by local, state, and national standards. Accomplished teachers are able to create a rich environment that promotes literacy while assisting their students in using all the language arts to access and enrich other content areas. Teachers know how to differentiate instruction for all students and are able to articulate their rationale for instructional decisions. Accomplished teachers are themselves avid readers with a broad curiosity about and experience with written texts of many kinds.</p> <p>Knowledge</p> <p>Accomplished teachers know that literacy learning begins early in life and progresses along a continuum of development, and they recognize that their students are at various points in their reading development. Literacy teachers possess a repertoire of approaches, methods, and materials to meet the needs of individual students and to challenge each student to grow as a reader. Accomplished teachers know the processes, skills, and strategies that students at various developmental levels need to learn in order to decode, comprehend, analyze, and evaluate increasingly more complex texts.</p>	

Reprinted with permission from the National Board for Professional Teaching Standards. All rights reserved.

Accomplished teachers understand the particular challenges related to learning to read, and they know that each student may need to overcome various challenges. Teachers ensure that all students receive high-quality instruction that motivates them and furthers their development as readers. Teachers know how and when to assess students to select texts that relate to student needs and interests. For example, the teacher might notice from a record of reading that a student relies on picture support, so the teacher would select texts with close picture-text correspondence for that particular learner. The ultimate goal of accomplished teachers is to help students develop into lifelong readers who are engaged in the process of learning, who are able to comprehend and critique what they read, and who read for enjoyment.

Accomplished teachers recognize the relationship that exists between students' background knowledge and their abilities to comprehend the texts they read. Teachers know the importance of honoring, assessing, and activating the prior knowledge that students bring to the classroom. Literacy teachers understand how to help students draw upon their background knowledge to interpret evidence and information in texts, identify bias, and constructively critique inaccurate portrayals and information. Teachers know how to help students connect to text by providing them with a variety of strategies to use before, during, and after reading. They also know how to create authentic experiences both inside and outside the classroom to build a base of shared knowledge for their students.

Accomplished teachers understand that reading is the process of constructing meaning from texts. They also understand that reading is transactional—that is, the reader brings meaning to and takes meaning from a text—and that a student's response to a text is influenced by his or her prior knowledge and experiences, purposes for reading, and the context in which the text is read. For example, the accomplished teacher would understand that in the case of some rural students who may never have seen an escalator, it would be helpful to show a picture of an escalator or a video clip of one on the Internet and explain its similarity to a conveyor belt.

Accomplished teachers know that students can motivate one another to read by sharing ideas and information about reading materials, authors, and illustrators, and that students can also influence one another's ability to think critically about texts. Literacy teachers recognize that the degree of curiosity and motivation students bring to texts directly affects their willingness to work hard at understanding them.

Accomplished teachers know that strategic readers use a variety of cueing systems, and they understand how to instruct students to use these systems flexibly. Teachers know how to provide all students, whether emerging or proficient readers, with appropriate texts, strategies, and opportunities to practice reading with sufficient fluency and automaticity. Literacy teachers recognize that students have varying degrees of experience with texts and concepts of print. Teachers know to assess for and purposefully teach concepts of print, knowing that these concepts become increasingly sophisticated along the reading continuum. For example, teachers of

young students understand that a basic understanding would be directionality and return sweep, while teachers of older students would include more advanced concepts such as knowing how to navigate a graphic novel.

Accomplished teachers are familiar with a wide range of written, spoken, and visual texts. These might include children’s literature such as picture books, poems, and folk literature; other narrative and expository texts; and non-print and multimedia texts appropriate for early and middle childhood. Teachers understand the importance of engaging students with all these types of texts. Literacy teachers know that in an age of information-rich technology, students need the ability to read texts in all media and to make connections among different media. Teachers understand the importance of providing students with access to a rich selection of texts—including community and student-generated texts—through classroom, school, and community libraries. Accomplished teachers comprehend the historical and cultural contexts of texts, and they know and use texts that authentically represent diversity in terms of culture, abilities, gender, region, and use of language.

From Standard VII: Writing

Accomplished early and middle childhood literacy teachers know that writing is the process of exploring, organizing, and transcribing one’s thoughts in a variety of print and non-print forms. They understand the power that writing has to allow the writer to clarify thinking, communicate ideas, create new worlds, relate to others, and make discoveries. They know that writing draws on a complex web of social, physical, and cognitive skills that take time and effort to acquire. They teach students to use writing to inform, persuade, beguile, impress, or otherwise influence an audience. Literacy teachers understand that writing is an intellectual adventure requiring discipline and daily practice. They recognize that writing is a complex, recursive thinking process that varies widely from individual to individual, and they create an environment that nurtures each student’s discovery of approaches to writing. Accomplished teachers are experienced and skilled writers themselves, and they model writing throughout the instructional day. Teachers help students develop metacognitive awareness of the interdependence of writing and the other language arts along with connections between writing and other content areas.

Knowledge

Accomplished teachers are knowledgeable about the current literature on the subject of teaching writing, including theories of writing and pedagogies that support the learning of writing. Accomplished teachers can participate with professional ease in conversations that surround the teaching of writing, and they can select and synthesize sound instructional practices. Accomplished teachers understand all stages of the writing process, including prewriting, drafting, revising, editing, and publishing, and they know that the writing process is recursive, not linear.

Accomplished teachers understand that writing is in many respects a social process—a way of finding one’s voice in the world—and that the desire to make one’s

ideas known to others often serves as a powerful motivator for writers. Literacy teachers understand that the goal of writing is not simply to communicate with others. They also know that writing can be used to express emotion; reflect on learning; record discoveries; and summarize, analyze, and synthesize concepts across the curriculum. Finally, teachers know that whatever its purpose, writing can have a profound influence on learners.

Accomplished teachers understand the links between writing and the other language arts; in particular they understand the foundational and complex relationship between oral language and writing. They understand that what students articulate is the basis for what they are able to write. Literacy teachers know that learning to write involves knowing how writing and speech relate; how form and style vary depending on different situations and purposes; and how a reader will react to what was written. These teachers are aware of the range of oral language acquisition levels of their students and how these levels influence students' writing. Literacy teachers pay special attention to the oral language acquisition levels of culturally and linguistically diverse learners and students with exceptional needs. Accomplished teachers know that without explicit instruction in and accommodations for their oral language development, English language learners and students with exceptional needs may have difficulty mastering the written language.

Accomplished teachers are well informed about the connections between writing and reading. They understand that the ability to write has a positive and reciprocal effect on students' reading skills and that readers who understand how texts are composed can apply this knowledge to their own writing. Literacy teachers understand that to write certain genres and formats, students need first to have experiences reading those kinds of texts. Additionally, teachers know that it is critical for students to understand the relationship between viewing and writing. For example, teachers know that careful observation of visual images can help students write with greater detail, and teachers also appreciate that inserting illustrations in written texts can help writers better communicate their meaning. (See Standard IX: Viewing and Visual Literacy.)

Accomplished teachers are familiar with the stages and indicators of learners' writing development. Teachers understand that the concept of emergent writing applies to English language learners as well as to young children, and accomplished teachers can distinguish between the ways these two populations learn to write. Literacy teachers know that early attempts at spelling reflect children's efforts to communicate using print, and teachers realize that the way a child spells can provide insight into the child's literacy and linguistic growth. Accomplished teachers understand that many aspects of writing fascinate children. They know that young children are impressed when they first realize that written symbols convey spoken words.

Accomplished teachers recognize that students of all ages can develop voice, agency, and new ways of viewing the world and their place in it through written expression. Literacy teachers understand that these aspects of writing become especially important as older students become more adept at the writing process and engage in

independent writing such as personal journals, poetry, and creative prose. Online venues such as social media and writing sites which provide communities of practice regarding popular culture encourage writing outside of school. Accomplished teachers recognize the importance of encouraging older students in these personal writing venues while maintaining a supportive, collaborative writing community in school where all learners are encouraged to write for personal pleasure and interests as well as for more formal academic and professional purposes.

From Standard VIII: Listening and Speaking

Accomplished early and middle childhood literacy teachers know that listening and speaking are more than the aural and oral aspects of communication. Literacy teachers understand that these two processes are closely interrelated and that they are foundational to language acquisition and to all aspects of literacy development. Teachers purposefully plan opportunities for learners to engage in communication through both formal and informal conversations. Teachers assess learning and speaking skills and the strategies for learning these skills. They assess listening and speaking separately, in connection with each other, and in combination with the other language arts. Accomplished teachers realize that listening and speaking are an essential part of a rich, robust language arts curriculum and should extend throughout the content curricula.

Knowledge

Accomplished teachers are aware that oral language is the foundation for all literacy skills. They know and understand the literature that examines the connection between oral language development and the acquisition of reading and writing skills, both for native English speakers and for students learning English as a new language. Teachers understand that speaking and listening are the primary means by which many children make sense of the world and communicate with others and that development of oral language supports further development in reading, writing, listening, and viewing. They recognize that the activities of speaking and listening help students develop auditory discrimination, construct meaning, and develop social relationships.

Accomplished teachers realize that listening is more than the physical act of hearing. Literacy teachers understand that listening is a process that involves receiving, attending to, understanding, analyzing, evaluating, and reacting to sounds and messages. Accomplished teachers are knowledgeable about the various types of listening, such as informational, critical, and social.

Accomplished teachers recognize that students need to communicate effectively through speaking. Teachers know that effective speaking involves such factors as fluency; clarity; appropriate volume and speed; and awareness of audience, purpose, and context.

Accomplished teachers know the types of spoken language that are appropriate in various situations, and they are aware of the conventions of formal and informal language. Teachers know that children initially overgeneralize the rules of English grammar and need explicit instruction in words that are exceptions to those rules, such as irregular past tense verb forms, irregular plural nouns, and irregular comparative adjectives and adverbs such as “better” and “well.”

Accomplished teachers know that children acquire and use oral language as a way to navigate their world in order to make their needs known, to ask questions, and to interpret and control their environment. Teachers understand that oral language acquisition is a natural developmental process, and they are deeply familiar with the stages of typical oral language development. However, teachers also comprehend that individuals acquire oral language skills at different paces and with varying degrees of ease or difficulty. Teachers know that in order to expand students’ facility with and appreciation of oral language, teachers must provide students with explicit instruction and rich language experiences geared to their individual needs. Teachers also have knowledge of the nonverbal cues, such as body language and facial expressions, that children need to interpret and use to be effective speakers and listeners. Accomplished teachers are aware of some of the common problems associated with oral language development, and they access interventions for addressing them.

Accomplished teachers understand that different cultures apply different conventions to verbal and nonverbal communication. For example, students may come to school with different perceptions of the social rules governing appropriate use of tone and volume in conversation. Accomplished teachers actively seek to understand each student’s background of verbal and nonverbal communication and to help students communicate well with their peers and with adults.

From Standard IX: Visual Literacy

Accomplished early and middle childhood literacy teachers know that students are inundated with information in both print and non-print forms and that viewing skills and visual literacy are critical in today’s media-saturated society. Teachers realize that reading non-print texts requires explicit instruction in viewing skills and strategies, and they consider viewing to be just as essential to literacy development as the skills of reading, writing, listening, and speaking. They realize that today’s students live in a digital world and that viewing is no longer a passive undertaking. Viewing has evolved because of a proliferation of visual media and emerging technologies. It has become an interactive, reciprocal process known as visual literacy, which involves being able to decode, interpret, understand, and encode meaning through visual language. Accomplished teachers are aware of this evolving literacy. They provide an environment that is conducive to learning about and through an array of visual media because they believe it is crucial for students to interpret the world beyond traditional print texts. Literacy teachers use visual media in both instruction and assessment to provide authentic ways for students to make meaning and

<p>demonstrate understanding as well as to deepen content-area knowledge in all domains.</p> <p>Knowledge</p> <p>Accomplished teachers understand that students need a significant skill-set to develop viewing and visual literacy. This repertoire includes the ability to analyze visual images; interpret graphic representations; interpret and evaluate non-print, visual media messages; and employ visual media as a way to make meaning and communicate. Visual literacy also incorporates the ability to analyze the purposes of visual texts, including for propaganda, commercial, aesthetic, and intellectual uses. Teachers understand that today’s students must learn to be both critical consumers and skilled producers of many visual media. Therefore, accomplished literacy teachers facilitate students’ interactions with the visual environment as an important part of the learning process.</p> <p>Accomplished teachers know that the concept of what constitutes a text has expanded beyond printed texts. Printed texts are those that involve encoding and decoding alphabetic and other standard printed symbols in order to make meaning. Non-print visual texts include but are not limited to videos, illustrations, graphs, collages, body language, sign language, wordless books, picture symbols, photographs, television programs, billboards, plays, films, and works of art such as sculptures, paintings, or stage sets.</p> <p>Accomplished teachers understand that in order to read the full range of visual information, students must learn how to interpret a wide range of visual cues. These include such elements as text features; details and patterns in photographs, videos, and interactive games; or the body language and facial expressions that accompany speech and modify its meaning. Teachers know that visual information often adds layers of significance beyond that conveyed in the written word. For example, an accomplished teacher knows to direct students to information contained in a bar graph accompanying an informational text and how to extend the discussion by identifying other ways the author might have conveyed the information.</p> <p>Accomplished teachers realize that visual media transform and mold society; therefore, they recognize how important it is for their students to become informed consumers and producers of visual media such as Web sites, blogs, email, video clips, software, video games, and other current and emerging technologies. They understand that if students are to compete within a global society, they must not only be critical consumers of visual media but also be creative producers who are capable of having a positive impact on the economy. Literacy teachers embrace new technology and find innovative uses of traditional technologies.</p> <p>Since this field is continuously evolving, accomplished teachers are flexible and open to new ways of understanding visual literacy. Teachers are themselves skilled viewers, able to analyze and interpret a wide variety of visual texts. They seek to become knowledgeable about the types of viewing experiences their students have— what</p>	
--	--

television shows students see, what movies they go to, what Web sites they visit. Teachers know how to help students become reflective and analytic viewers both at school and at home. They seek out professional development in this area. They might take a course on critical reading to develop a deeper understanding of how visual media are read, or they might attend a workshop on how to integrate the use of video clips into their literacy instruction. They might help colleagues develop visual literacy by engaging in critical conversations about the images found within the school environment as well as in the community. For example, an accomplished teacher might recognize cultural bias in a poster encouraging parental involvement and address it with school administrators.

From Standard X: Literacy Across the Curriculum

Accomplished early and middle childhood literacy teachers are aware of the importance of integrating literacy instruction. They understand that integrated literacy instruction involves two interrelated concepts. The first is the well-established principle that although the five language arts—reading, writing, listening, speaking, and viewing—are distinct processes requiring specialized skills, they are also mutually reinforcing and cannot be taught in isolation. The second is that teachers integrate the language arts across other disciplines. They incorporate content area texts in their literacy instruction and work to strengthen their students' literacy skills in content areas beyond literacy. Although accomplished teachers recognize the need for concentrated blocks of time focused on the teaching of reading–language arts, they also connect their literacy instruction with student learning in the other disciplines. Accomplished literacy teachers constantly engage students in enlarging their view of the world and expanding their literacy skills by having them read, write, speak, listen, and view across the curriculum.

Understanding the Reciprocal Nature of Language Processes

Accomplished teachers know that all areas of the language arts are mutually reinforcing and that growth in one area often transfers to the others. Therefore, in the classrooms of accomplished teachers, the reciprocal nature of the language arts is acknowledged in purposeful lessons that incorporate numerous combinations of the different skills.

Accomplished teachers read texts aloud to students as one way of integrating the language arts processes. For example, when teachers point to a text as they read it aloud, younger students learn to match the spoken word to the written word; gain an understanding of directional concepts; and use picture cues, auditory cues, and predictable patterns to gain meaning from text. When teachers read aloud to older students, the teachers model fluency, tone, emphasis, and phrasing, demonstrating the ways in which the speaker's control of these elements can improve the listener's comprehension. Teachers also use readalouds to inspire writing and speaking. Teachers might share simple, well-written texts as models to encourage student writing and illustrating as well as a springboard for inviting students to respond orally. When students are listening to, reading, and discussing texts, accomplished teachers

might analyze the ways in which authors use language in interesting and descriptive ways. For example, as they share poetry or nursery rhymes, literacy teachers help students listen for rhythm and rhyme and then support students as they experiment with these components in their own writing or speech.

Accomplished teachers integrate oral and written language development by engaging in frequent instructional conversations with students, individually or in small groups, to talk about texts. Teachers also integrate oral and written language and develop higher level thinking by having students write about what they have heard or discussed. Teachers may encourage students to employ technological tools as means of discussing texts. For example, the teacher might encourage students to use social networking to discuss their responses to books they have read, plays they have seen, or lyrics they have heard.

Accomplished teachers know that students may be more successful in some language arts than others and that tapping into a student's assets in one area may provide momentum for growth in another. For example, a struggling reader who possesses strong interpretive skills when viewing and discussing a film can be taught to apply these skills to reading a text. Similarly, students who are reluctant to participate in class discussions may gradually gain confidence by developing language competencies through their writing and then be more willing to share their thoughts orally.

When accomplished teachers plan assignments that integrate all the language arts, they often have the opportunity to engage their students in high-level critical thinking and creative connections. For example, creating a visual presentation may require students to conduct research using print and non-print texts; to write and organize notes; to create a formal presentation; to design layouts and captions for the information; and to orally or visually present the final result. When planning instruction that integrates the five language arts, literacy teachers differentiate based on the age levels, interests, and abilities of their diverse students, including general education students, students with exceptional needs, and English language learners, regardless of whether they are achieving at, below, or above grade level.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Early and Middle Childhood Literacy: Reading-Language Arts Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EMC-LRLA.pdf>

MATHEMATICS (EA) & (AYA) <i>Early Adolescence & Adolescence through Young Adulthood (Shared Standards)</i>	NOTES
STANDARD II: Knowledge of Mathematics STANDARD VI: Ways of Thinking Mathematically	
<p>OVERVIEW: Accomplished mathematics teachers have a deep and broad knowledge of the concepts, principles, techniques, and reasoning methods of mathematics, and they use this knowledge to inform curricular goals and shape their instruction and assessment. They understand significant connections among mathematical ideas and the applications of these ideas to problem solving in mathematics, in other disciplines, and in the world outside of school. (Standard II)</p>	
<p><i>Standard II: Knowledge of Mathematics</i></p> <p>Mathematics is a fundamental tool in the persistent human effort to make sense of the world—its order, chaos, stability, and change. It has applications, for example, in scientific, technological, economic, and political arenas. Although it is one of the oldest disciplines of human knowledge and thought, the field of mathematics continues to grow and evolve. New concepts, principles, and methods become a part of the discipline each year. For example, the concept of fractals and the theory of computational complexity have been developed during the lifetime of many of today’s teachers.</p> <p>Accomplished teachers have a deep and broad understanding of the mathematics well beyond the level they teach. For example, an early adolescence teacher could demonstrate how transformations of shapes that are studied at the pre-algebra level will relate to transformations of functions encountered in higher-level algebra. Their knowledge encompasses not only the details, rules, and procedures of mathematics, but also the larger themes and connecting ideas that tie together its various strands. In some higher-level mathematics courses, an adolescence young adulthood teacher could guide students to apply their prior knowledge about solutions to linear equations and to systems of linear equations in their study of non-linear equations and systems of non-linear equations. This rich, conceptual knowledge of mathematics allows them to make decisions about what to emphasize in the planning of lessons. Their knowledge base makes them well aware of where their students are headed—individually and as a group—and how to move them to continually deepening levels of mathematical understanding. This knowledge of mathematical principles, ideas, and reasoning allows teachers to monitor and adjust their teaching continuously, directing students toward key understandings that arise naturally from students’ work by asking questions and guiding discourse toward these understandings.</p>	

Reprinted with permission from the National Board for Professional Teaching Standards. All rights reserved.

To teach effectively, accomplished teachers have a sound foundation in the disciplines that compose mathematics. They understand the history of mathematics and how knowledge in this area has developed over time. They know the ways of thinking, talking, and writing about mathematics and have enough experience with them to share them with their students. They help students develop the ability to think mathematically and to communicate correctly about mathematics both verbally and in writing. These teachers know their field well enough to understand the challenges associated with establishing the body of knowledge that constitutes the field.

Accomplished teachers view the discipline from several perspectives and have a broad and rich understanding of the knowledge base that informs the mathematics curriculum—in particular, number and operation, algebra and functions, geometry, trigonometry, discrete mathematics, data analysis and statistics, and calculus. Teachers are fluent in the skills and conceptual developments within each discipline and draw on this knowledge to design lessons that are both mathematically substantive and pedagogically sound. Teachers are also aware of the role their knowledge of mathematics can play in advancing student learning. Consequently, these teachers demonstrate breadth as well as depth of knowledge to support their teaching.

To make classroom decisions that support student learning, accomplished teachers must understand both mathematics and students and, as teachers, must continue to grow in their understanding. (See Standard I—Commitment to Mathematics Learning of All Students) for a definition of mathematical understanding. To help students acquire and then build on the ideas, methods, and skills that underlie mathematics; to see relationships among these elements; and to make significant applications of them, mathematics teachers must have a broad and well-integrated knowledge of these underlying ideas, as well as the methods and techniques of mathematics. Teachers must appreciate the richly interconnected nature of the discipline and share that with students.

Accomplished teachers know the productive connections between mathematics and other fields of human endeavor—connections that have given mathematics a remarkable history of intellectual service to problem solving and decision making across time and cultures. Teachers have a broad understanding of the methodology of the axiomatic system and know that this methodology is shared by the physical sciences. Teachers see that mathematics and the sciences in general both rely on recognizing patterns in order to make generalizations and develop understanding. Teachers understand the importance of proof and how it works in establishing truth and in providing a standard of rigor that sets mathematics apart from other disciplines.

A strong force in the contemporary evolution of mathematics—and of mathematics teaching—is the power of modern computational technology. As a result of the growing use of this technology, some problems and topics are becoming more accessible to students, along with new ways to represent and manipulate mathematical information. Accomplished teachers have knowledge of current technology and are fluent with its use.

Contexts for Mathematics

Accomplished teachers understand the foundations of abstract concepts and techniques related to concrete cases, and they use this understanding to make curricular and instructional decisions and to help students make connections across disciplines. Teachers appreciate the historical course through which mathematical ideas have developed and the ways different cultures have influenced and contributed to that development.

An accomplished teacher's knowledge of the context within which mathematics has evolved is useful and includes the following:

- Knowledge of the major threads in the historical development of key mathematical ideas—the conceptual stumbling blocks and insights that provided important breakthroughs—and the contributions of various individuals and cultures to those developments.
- Knowledge of the ways mathematical ideas have been and remain fundamental to practical and scientific progress in fields related to mathematics. This includes applications for the major concepts and techniques of core content topics in the school curriculum, as well as the modeling processes that are fundamental to effective applications of mathematics. Such applications provide a basis for thinking about and using mathematics. Effective use of technology is an essential part of this modeling and application process.
- Knowledge of a set of analytical techniques and the ability to recognize when the techniques are appropriate to apply in real situations.

Mathematics is often described by naming important concepts, facts, and operations in its major topic strands. However, throughout those strands, accomplished mathematics teachers always keep in mind and apply the following essential guiding principles:

- Communication of mathematics with precision—teachers know that mathematics does not tolerate ambiguities and that no mathematical statement can be regarded as correct if it is correct in some, but not all, possible circumstances. For example, the statement “if x, y, z are numbers and $x < y$, then $zx < zy$ ” would be correct to most people because “numbers” to them means only positive numbers, but it must be regarded as an incorrect statement because it is wrong when z is zero or negative.
- Acknowledgement of the need for precise definitions—teachers know that definitions are the bedrock upon which logical arguments rest. They know that an explanation of a mathematical assertion cannot be based on concepts only vaguely understood. For example, without a precise definition of “similarity,” it is impossible to give an explanation of the fact that the graphs of all quadratic functions are similar to each other.
- Ability to support mathematical assertions with reasoning—teachers know that, in mathematics, the truth of a statement is established not by the

authority of the person who makes it but by a logical explanation. Teachers can use reasoning to derive standard formulas and algorithms (e.g., the quadratic formula, the area formula of a circle).

- Ability to think about mathematics, not as a collection of isolated facts but as a whole fabric—teachers know (1) the importance of specific mathematics topics (e.g., Why study non-linear functions?); (2) the usefulness of mathematics topics in relation to others (e.g., the criteria for similar triangles are useful for showing that the graph of a linear equation is a straight line); and (3) the connections among mathematics topics (e.g., the concept of division for whole numbers is the same as that of division for fractions, rational numbers, and complex numbers; or the fundamental role played by the concept of congruence in the definition of area or volume).
- Knowledge of mathematics as the focused response to the need for solutions to major problems—for example, geometric measurements arose from the need to compare sizes in farming and bartering, and calculus resulted from the need to study change. Consequently, teachers come to value the central importance of problem solving in mathematics.
- Knowing that solutions to problems are usually not achieved immediately or without considerable thought—the process of solving problems often evolves from simple, heuristic arguments and strategies to precise and rigorous ones. Teachers, therefore, know that part of problem solving includes the use of heuristic arguments as a guide (e.g., the testing of extreme cases, the search for specific examples to shed light on the general case, and the use of visual representations).

Core Mathematical Knowledge

Accomplished teachers understand the major ideas in the core domains of mathematics. Although their expertise may vary in degree for particular domains, teachers have a fundamental knowledge base from which to build student mathematical understanding. However, within certain domains there are differences between the application of knowledge by the early adolescence teacher and the adolescence-young adulthood teacher. In this document, when this distinction occurs, the adolescence-young adulthood teacher is specifically referenced. Core mathematical knowledge includes numbers and operations, algebra and functions, geometry, discrete mathematics, trigonometry, data analysis and statistics, and calculus. (This list of topics is not intended to indicate a specific order of study.)

Numbers and Operations

Accomplished teachers understand basic concepts of numbers and operations and can model them in a variety of ways. Teachers understand the conceptual basis for the number systems—the relationships between and among whole numbers, integers, rational, real, and complex numbers. Teachers understand that the backbone of school mathematics is the rational number system. They should be able to explain the reasoning behind the algorithms of rational number operations. They recognize the pervasiveness of proportionality across mathematical strands and can use that

concept as a model in describing a variety of situations, including those calling for ratios and percent. They understand the need for making estimates and also know what situations call for estimates rather than exact answers, and vice versa.

Algebra and Functions

Accomplished teachers recognize algebra as a language for expressing generality and abstraction. They also recognize that a foundational skill in algebra is the correct and fluent use of symbols and expressions containing symbols. They can demonstrate and apply the critical role and ubiquitous nature of the abstract laws of associativity, commutativity, and distributivity in symbolic manipulations, especially in the solution of equations. Accomplished teachers of adolescents and young adults, having internalized the processes of abstraction and generalization and being familiar with the concept of a ring, will recognize the structural similarity between integers and polynomials. Familiar with the concept of a field, they will also recognize the connection between fractions and rational expressions.

In the context of linear functions, accomplished teachers understand the role of units in problems of rate. In that same context they have knowledge of linear transformations and matrices. Teachers know that the quadratic formula is the apex of a development that yields all desirable information about quadratic equations. They know that the definition of an exponential function ax depends on a correct definition of the rational powers of positive numbers and why all such exponential functions with $a > 0$ and $a \neq 1$ are either increasing or decreasing. They know when a function has an inverse function. Mathematics teachers know that the logarithmic function is important in mathematics because it transforms multiplication into addition. They can use the technique of mathematical induction to write proofs, such as the summation formula of an arithmetic sequence and the binomial theorem. Accomplished teachers also know that algebra deals only with finite processes and that infinite processes, such as limits, belong to calculus. Teachers also understand, however, that algebra can be used to do some things that typically use calculus, such as finding the maximum or minimum of a quadratic function. It is a simple task in calculus, but accomplished teachers know that it can also be done easily using only algebra.

Accomplished teachers understand the interplay among numerical, symbolic, verbal, and graphical representations of quantitative relationships and the role and means of transforming and simplifying these representations. Teachers are proficient in using concepts and symbolic expressions for working with families of functions, such as polynomial, exponential, rational, logarithmic, and trigonometric families.

Geometry

Accomplished teachers know that geometry is the analytic study of spatial information and that the description of spatial information requires precision. For this reason, exact definitions are extremely important, and accomplished teachers are fluent in their use of them. Teachers also recognize that using definitions in geometry is a means to an end rather than the end itself, which is the use of definitions to draw

conclusions about space. Accomplished teachers, for example, might use definitions to prove theorems about parallel lines, congruent figures, similar figures, or circles.

Accomplished teachers know that the presence of proofs is not an isolated incident limited to geometry but is an integral part of mathematics as a whole, as well as of many non-mathematical domains. Teachers know that the basic isometric transformations—reflections, rotations, and translations—underlie the concept of congruence and that the concept of dilation, together with congruence, provides a precise definition of similarity. They also know that similar triangles are basic to understanding why the graph of a linear equation in two variables is a line.

Accomplished teachers know that an axiomatic system is set up solely for the purpose of organizing systematically a body of knowledge and that a valid presentation of geometry is not dependent on having a collection of axioms. At the same time, they are also aware that an axiomatic treatment of geometry leads to a fuller understanding of non-Euclidean geometries. They know that the most important aspect of any proof is to be explicit at each step about the hypothesis assumed and the conclusions to be proved.

Accomplished teachers know the basic geometric constructions and are aware that the solutions to some of the classical construction problems involving a straight edge and a compass depend on algebra and higher mathematics.

Accomplished teachers know that the essence of geometric measurement—be it length, area, or volume—is fixing a unit of measurement and then using the unit to “measure” another geometric figure, in the sense of “fitting” as many units or fractional parts thereof as possible into the figure. They know that the most common units chosen for length, area, and volume are, respectively, the unit interval $[0,1]$, the unit square, and the unit cube. Teachers understand the fundamental role played by the concept of congruence in geometric measurements.

Accomplished teachers can derive with ease the standard area formulas for rectangles, triangles, parallelograms, trapezoids, and circles, as well as the area of any polygon. Teachers can explain the volume formula of a cylinder with an arbitrary base, such as a circle, triangle, or regular polygon, and how it relates to the volume of the cone on the same base.

Trigonometry

Accomplished teachers know that the definitions of trigonometric functions for acute angles make sense only because of the theory of similar triangles. Teachers can use the unit circle to extend the definitions of the trigonometric functions from acute angles to all angles. They know that the x and y coordinates on the unit circle are the cosine and sine of the corresponding central angle. They also know that, at this point, the use of radians for angle measurement is more appropriate because the formulas in calculus are simplified by the use of radians. They know that the Pythagorean Theorem and the sine and cosine addition formula are all that is needed in

trigonometric identities. Accomplished teachers of adolescents and young adults also know the relation of the sine and cosine addition formulas with the complex exponential function ($e^{i\theta} = \cos \theta + i \sin \theta$).

Discrete Mathematics

Discrete mathematics at the pre-university level is a non-unified collection of topics dealing with finite and discrete phenomena that are often connected to other areas of mathematics. Accomplished teachers are acquainted with certain topics about finite collections of objects, or infinite collections without involving limits. They know finite probabilities in terms of careful counting leading to standard permutations and combinations using binomial coefficients, such as how many ways can you make a group of three objects from a collection of five objects. They also know modular systems, for example clock arithmetic, and their arithmetic operations, including the fact that the arithmetic of base 2 is used in computers and coding.

Accomplished teachers know how to use truth tables to clarify the idea of logical implications, including the concepts of converse and contrapositive. For example, all teachers should know that the statement, "If it rains, then I bring an umbrella," is not equivalent to the statement, "If I have an umbrella, then it is raining."

An accomplished teacher is adept at handling infinite sequences, such as arithmetic and geometric sequences. They also know how to define sequences recursively, such as the Fibonacci sequence.

In addition, teachers of adolescents and young adults should be well acquainted with the basic definitions of graphs, including circuits, Euler circuits, and trees.

Data Analysis and Statistics

Accomplished teachers use both quantitative and qualitative approaches when answering questions involving data. To do so, they collect, organize, represent, and reason about data using a variety of numeric, graphic, and algebraic concepts and procedures, and they look for ways to describe and model patterns in data. They know how to interpret and draw inferences from data to make decisions in a wide range of applied problems, as well as how to use simulations to investigate situations.

Accomplished teachers understand that what separates the study of statistics from other areas of mathematics is the inherent variability in data. They understand the various sources of variability and how variability is at the heart of statistical reasoning and measurement. They understand why mean, median, and mode are useful, and they appreciate the meaning of each measure of variability within a context. Teachers understand that a goal of data interpretation is to help students become more discriminating consumers of information.

Accomplished teachers of adolescents and young adults understand the concepts behind basic inferential techniques and concepts such as confidence intervals and

hypothesis testing. In addition, they are aware of the advantages, limitations, and appropriateness of each technique. They understand that statistical inference goes beyond describing data and involves using formal probabilistic methods to support or refute generalizations about populations based on samples, using the methods and language of probability.

Calculus

Accomplished teachers should be knowledgeable about the basic concepts of calculus, for example continuity, differentiation, and integration. For instance, teachers understand why there is a relationship between the limit of the function $1/x$ as x approaches zero and the y -axis as an asymptote of the function. They also understand the concept that the derivative of a function at a point can vary as the point changes. Whereas in algebra one can deal only with average rates of change, the mathematics teacher knows that with calculus one can address instantaneous rates of change. The teacher knows that because functions arise from all branches of science, calculus continues to play a central role in the sciences.

Accomplished teachers of adolescents and young adults are skilled in computations involving limits, derivatives, and integrals and their applications. For example, they can compute the area between two curves and two vertical lines. They are knowledgeable about the theoretical foundations of calculus so that they can help their students make sense of various computational procedures for problem solving. Teachers of adolescents and young adults understand the fundamental role of the limit concept in all of calculus (continuity, summation of infinite series, differentiation, integration) and that the existence of these limits depends on the completeness of real numbers. They can supply reasoning for various theorems, such as the intermediate value theorem and the existence of maxima and minima for continuous function on finite closed intervals. They can also make use of technology to help students understand the limit process.

Standard VI: Ways of Thinking Mathematically

Accomplished teachers bring insight about mathematics to students, including new perspectives on standard problems and unexpected connections among different fields. Teachers are proficient not only in solving problems, but also in making students aware of different strategies for solving a problem, as well as the relative merits of each. They have the confidence to help students face uncertainties and make strategic decisions in exploring unknown territories.

Accomplished teachers know that mathematics is a discipline of concepts, principles, procedures, and reasoning processes. Thinking mathematically includes representing, modeling, proving, experimenting, conjecturing, classifying, visualizing, and computing. In the classrooms of accomplished teachers, students are engaged in identifying patterns; solving problems; reasoning; forming and testing conjectures, justification and proof; and communicating results. Students search for connections

and solve problems, while reflecting on both the mathematics and their own thought processes.

Accomplished teachers recognize that important general concepts and reasoning methods undergird the development of mathematical power. They model mathematical reasoning as they work with students and encourage students to question processes and challenge the validity of particular approaches. Students make conjectures and justify or refute them, formulate convincing arguments, and draw logical conclusions. Sound reasoning—not an edict from the teacher—is the arbiter of mathematical correctness. In short, students become mathematically empowered as they learn to think, reason, and communicate mathematically.

Accomplished teachers recognize that mastering mathematical facts and procedures is only a part of what it means to learn mathematics. Teachers must understand and consistently employ mathematical thinking processes in their classroom practice that include the following:

- Reasoning correctly using processes such as classification, representation, deduction and induction;
- Using heuristics as a key strategy to guide solutions to mathematical problems, such as testing extreme cases, conducting an organized search of specific examples, and using different problem representations;
- Modeling mathematical relations in problem situations—describing important relationships through symbolic expressions and other representations;
- Connecting ideas, concepts, and representations across the strands of mathematics.

Teachers also know the importance of developing students' understanding of and disposition to do mathematics. Teachers realize that teaching students to "think mathematically" means helping them develop a mathematical point of view in which they consistently use the mathematical thinking processes listed above; recognize situations in which mathematical reasoning might be useful; and have the ability, skill, and confidence to think through a mathematical situation. For example, the teacher might stress the idea that knowing how to calculate the area of a triangle is all that is needed for knowing how to calculate the area of all polygons. To encourage mathematical thinking, teachers provide settings that allow students to test mathematical ideas, patterns, and conjectures; discover principles; synthesize evidence; and apply their growing knowledge to a variety of problems. Teachers know and use the overarching themes of mathematics that help students understand and appreciate the powerful relationships between mathematical ideas and problems—as in making students aware of the relationship between diverse fields, such as algebra and geometry or geometry and probability. For instance, teachers might discuss how similar triangles are basic to the understanding of linear functions and how the concept of area makes tangible the concept of probability.

Accomplished teachers know multiple ways to represent mathematical concepts, and they organize tasks so that students will learn that a single problem may have many

representations. Teachers encourage students to distinguish between these representations and to select a compelling and efficient representation for a given problem or situation. Teachers know the importance of developing mathematical concepts concretely, so they are knowledgeable about the use of a variety of representations that support their instructional goals. For instance, teachers might use a dynamic geometry software package to help students develop definitions for and characteristics of plane figures using a graphic organizer. Teachers know and communicate that representations are often needed to form abstractions initially, and they allow students to think mathematically about abstract concepts. Although not every teacher will use the same materials for the same purposes, mathematics teachers are adept at using concrete materials that help students develop various mathematical understandings. For example, students might use concrete materials or manipulatives to develop a rule for binary operations with integers. Teachers help students make connections between their manipulative experiences and the mathematical ideas they need to grasp.

Accomplished teachers provide students with problems and applications that will allow them to explore new mathematical content, reflect on the problem-solving process, extend and refine their thinking, make generalizations about the procedures they have used, and link those generalizations with what they have learned previously. Teachers provide many rich opportunities for students to apply mathematics to interesting problems. In so doing, teachers point out the interrelated domains of mathematics. They not only choose tasks related to everyday life—including the sciences, economics, politics, or business—but they also choose tasks that will extend understanding within mathematics. Their choice of problem contexts reflects the breadth of mathematics and its applications.

Accomplished teachers deliberately structure opportunities for students to use and develop appropriate mathematical discourse as they reason and solve problems. These teachers give students opportunities to talk with one another, work together in solving problems, and use both written and oral discourse to describe and discuss their mathematical thinking and understanding. As students talk and write about mathematics—as they explain their thinking—they deepen their mathematical understanding in powerful ways that can enhance their ability to use the strategies and thought processes gained through the study of mathematics to deal with life issues. For example, when students in geometry are given six toothpicks and asked to construct with them four equilateral triangles, they usually conclude after multiple attempts that it is impossible. When probed to explain their thinking, they focus on the mathematics they know and usually conclude that this cannot be done on the plane, which is true. Then they realize that they were not asked to do it on the plane and immediately come up with the solution: the regular tetrahedron. From this exercise, they learn to think through the analysis of a problem or situation in any discipline. Mathematics teachers encourage students to confront and challenge ideas and to question peers as they discuss mathematical ideas, develop mathematical understanding, and solve mathematical problems. Teachers use probing and supportive questions to advance students' thinking. Teachers monitor what students do, using mathematical communication regularly to help students build understanding.

For example, teachers might use the graphing of rational functions to help students understand the concept of an asymptote.

Accomplished teachers are well aware that students' mathematical achievement is still mainly dependent on their ability to conceptualize and analyze mathematics, to discover structures and establish relationships, to explore justification and proof, and to formulate and solve problems. For this reason, teachers know that they must develop students' mental acuity as well as pencil-and-paper skills. In addition, the latest technology has provided effective tools to help develop students' reasoning, mathematical thinking, and discourse. Accomplished teachers are able to use applications such as graphing technology, interactive geometry software, and computer algebra systems to support student inquiry, conjecture, and proof. For instance, when using geometric software, students can explore the properties of a parallelogram and conjecture about the consecutive angles being supplementary. This could lead students to "see" the proof as to why this is true. Teachers also know how to use calculators as exploratory tools to develop students' understanding of mathematics.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Mathematics Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EAYA-MATH.pdf>

MUSIC (EMC) & (EAYA) <i>Early and Middle Childhood & Early Adolescence through Young Adulthood</i> <i>(Shared Standards)</i>	NOTES
STANDARD II: Knowledge of and Skills in Music	
OVERVIEW: Accomplished music teachers consistently demonstrate outstanding performance and musicianship skills; comprehensive knowledge of music theory and history; and highly specialized knowledge in general, choral, or instrumental music as they provide students with high-quality, sequential instruction in music.	
<p>The accomplished music teacher is, first and foremost, an accomplished musician. In the classroom or rehearsal settings of an accomplished music teacher, the teacher’s expert musical skills, comprehensive knowledge of music, and superior musicianship are immediately evident. These teachers are musical authorities who are skilled and confident in musical performance, conducting, and creative musicianship. At the same time, they are highly knowledgeable about music theory and history. Accomplished music teachers are also knowledgeable about the physical, psychological, and physiological bases of music. These categories include, for example, the fundamentals of music acoustics, the musical means used in specific works to evoke feelings and emotions, and the effects of music on human behavior. Energetic and polished musical artists in classroom and rehearsal settings, these teachers consistently model expert musicianship for their students in their delivery of high-quality, sequential music instruction.</p> <p>Performing</p> <p>Accomplished music teachers know the performance techniques for all the instruments they teach. They perform in a primary performance area (instrument or voice) with artistic expression and technical proficiency, and they read at sight with fluency. They maintain knowledge of the repertoire of their primary performance medium. They are musically sensitive interpreters of works for their primary instrument, and they use this performance expertise fluently and effectively in their teaching. They demonstrate well-developed performance skills on a secondary instrument and are also able to use this instrument as an effective teaching tool. Accomplished accompanists when necessary, these teachers accurately and musically perform stylistically appropriate accompaniments on the piano, guitar, or other harmonic instruments to complement students’ musical performances or dances. When singing in the classroom or rehearsal, they consistently demonstrate proper vocal technique. When nonnative languages are a part of the material they present, they know the appropriate pronunciations of those languages.</p>	

Conducting

Accomplished music teachers consistently achieve accurate and musically expressive performances with various types and sizes of ensembles, either in rehearsal or in general music settings, or both. They conduct various types of repertoire with accuracy, clarity, and musicianship. They accurately and musically interpret scores for the ensembles they teach, using gestures that communicate style, dynamics, tempo, and expression appropriate to the size and maturity of the ensemble. They deliver these interpretations to students through skillful, purposeful, and well-practiced conducting techniques and through appropriate, effective musical demonstrations. When conducting, these teachers demonstrate expert control, physical balance, and economy of movement while eliciting maximum artistic performances. In addition to using gestures expertly, these teachers possess exceptional aural-diagnostic skills. They are adept at hearing, analyzing, and correcting performance problems that occur during rehearsals and classes, discerning and improving such qualities as pitch, balance, and characteristic tonal concepts. Teachers possess superior ability in evaluating their students' performances, distinguishing among those that are poor, good, or outstanding.

Creative Musicianship

As accomplished musicians, teachers are musically creative. As creative musicians, they are adept at improvising, composing, and arranging. When it is available, they appropriately use technology to assist in the creative process and the preservation of created works. (See Standard IV—Facilitating Music Learning.)

Teachers develop and maintain their own improvisation skills in accordance with the demands of their work assignment, and, when appropriate, they are able to improvise idiomatically in at least one medium and style. When improvising for or with students, teachers model in a manner suitable for the age group they are teaching and in accordance with their curriculum, and they exhibit the creativity and musicality expected of an accomplished musician. They demonstrate knowledge of various styles of improvisation and know appropriate recorded examples of these styles. When necessary, they skillfully improvise appropriate and musical accompaniments for such activities as student performances or folk dances.

In response to curricular demands or performance situations, teachers may compose music for voices, instruments, or electronic media, demonstrating familiarity with the media and knowledge of the ways in which the elements of music can be used to achieve various musical effects. When they compose, these teachers use their knowledge of music theory to create compositions that are musical, of appropriate difficulty for the intended ensemble, relevant to the curriculum, and engaging for students. These compositions may include musical activities that develop the sense of beat, meter, or phrase; melodies that illustrate the difference between major and minor modes; and instrumental pieces that require specific playing techniques. Teachers possess and demonstrate the skills and knowledge necessary to guide students' compositional efforts effectively, and when necessary they compose

musically appropriate examples for students to use as models for their original compositions.

In response to curricular demands or unusual performance situations, accomplished teachers might arrange music to suit the ability levels and unique instrumentation or voices of school performing groups or classroom situations. When they do so, they demonstrate the creativity, technical facility, and musicality of a skilled arranger. Their arrangements exhibit appropriate instrumentation, voicing, difficulty level, and style while developing and reflecting students' musical growth. When adapting an existing musical setting, they maintain the integrity of the original work.

Knowledge of Music Theory, History, and Repertoire

As accomplished musicians, teachers possess a broad knowledge of music theory and history. Their broad knowledge of music theory includes but is not limited to form and analysis; ear training including rhythmic, melodic, and harmonic sight singing and dictation; transposition; harmony; and counterpoint. They demonstrate a comprehensive knowledge of the musical and stylistic differences that distinguish the music of various historical periods, genres, styles, cultures, and media. They are able to analyze and describe musical works, presented aurally or in notation, in terms of their form or genre; the principles by which they are organized; the cultural and historical context in which they were developed; their use of the elements of music; the expressive devices they employ; and any unique features they possess.

Accomplished teachers are familiar with the core repertoire of solos, chamber ensembles, and large ensembles of the age groups and classes they instruct. In addition, they are aware of the composers who produce quality repertoire of depth for the age groups they instruct, and in the case of contemporary composers, teachers are continually examining new works for inclusion in the curriculum. Teachers develop meaningful, musical criteria for the evaluation of music and musical performances and apply these criteria accurately and effectively. They apply their comprehensive knowledge of music theory and history as they continue to develop their knowledge of musical literature and as they select music of the highest quality to use with their classes and ensembles.

In addition to their knowledge of music theory, history, and repertoire, accomplished teachers continue to develop their knowledge and skills not only in music but also in complementary disciplines that will enrich the educational experiences of students. They may, for example, attend living history exhibits, musical theater productions, or physics lectures and integrate the experience with their knowledge of music.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Music Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/ECYA-MUSIC.pdf>

PHYSICAL EDUCATION (EMC) & (EAYA) <i>Early and Middle Childhood & Early Adolescence through Young Adulthood (Shared Standards)</i>	NOTES
STANDARD II: Knowledge of Subject Matter	
OVERVIEW: Accomplished teachers utilize the depth and breadth of their content knowledge to develop physically educated learners.	
<p>The teaching practice of accomplished physical education teachers is based on a strong and substantial foundation of subject area knowledge. Physical education teachers are well prepared and passionate about meeting the psychomotor, cognitive, and affective needs of all students. Familiar with human anatomy and physiology, kinesiology and biomechanics, and exercise physiology, teachers apply their knowledge of these fields effectively and appropriately within educational planning and instruction. Accomplished teachers comprehend how the human body ages and matures; their mastery of motor learning concepts and principles informs their practice. An understanding of various movement forms allows accomplished teachers to provide their students with comprehensive, developmentally appropriate physical education programs. Teachers utilize their knowledge of physical activity and wellness, as well as the sociology and psychology of movement, to instruct their students. When teaching, they follow and apply established protocols that are based on a firm grasp of legal and safety guidelines. Their application of technology to enhance professional development, facilitate class instruction, and support student success reveals their confident awareness of how to use available resources. Finally, their familiarity with current issues and trends in physical education helps accomplished teachers appreciate the social developments affecting their professional responsibilities as physical education teachers.</p> <p>Exercise Science</p> <p>Accomplished physical education teachers are knowledgeable in human anatomy and physiology, kinesiology and biomechanics, and exercise physiology. They utilize these fields when teaching students how the human body functions and moves. For example, a teacher may employ exercise physiology to explain how exercise recovery relates to motor performance so students can understand the effect that exercise has on bodily systems. Similarly, a teacher may demonstrate how the biomechanical principles of force, time, flow, and effort relate to various movement activities by showing students how to throw a ball with various force patterns so they can hit targets at a range of distances. Accomplished teachers understand that the laws of exercise science contextualize student learning, providing students with the knowledge they need to maintain healthy bodies.</p>	

Motor Development and Motor Learning

Accomplished physical education teachers understand how children's bodies grow and mature. They have a thorough knowledge of motor development concepts and principles, such as the relationship between gross and fine motor skills or the distinction between static and dynamic balance. Accomplished teachers recognize that students mature physically and cognitively at different rates. Physical education teachers utilize their understanding of motor development to guide all students through developmentally appropriate movements that enhance their acquisition of motor skills. Accomplished teachers recognize their students' readiness to learn and can evaluate critical elements that may promote or inhibit their mastery of motor skills. Physical education teachers apply their knowledge of motor learning to engage students safely in the development of mature motor patterns. To enhance learning, they monitor interaction between the learner, the environment, and the task, making adjustments as needed based on an understanding of how these factors affect each other. Teachers are familiar with and apply a variety of effective learning strategies and methods when teaching different motor skills. They use developmentally appropriate progressions during instruction, focusing on the mechanics of movement as the sequence is experienced by the learner. Accomplished physical education teachers advance their students from the performance of basic movement skills to the application of complex movement patterns. They ensure that students master these movements before combining skills and patterns to achieve the goal of moving fluidly, precisely, and effectively in dynamic settings.

Movement Forms in Context

Understanding the scope and sequence of movement forms from prekindergarten through twelfth grade, accomplished teachers teach their students elements, strategies, and tactics of movement forms in a multitude of settings. Physical education teachers know that younger students focus on learning basic movement forms, requiring nonlocomotor, locomotor, and manipulative skills, and that older students focus on utilizing the same movement forms when participating in more complex fitness activities, dance, cooperative games, sports, and other lifetime activities. Accomplished teachers therefore realize that older students learning an invasion game require a fundamental mastery of skills such as dodging and fleeing to maintain possession of the ball. Similarly, teachers may have students use their mastery of motor skills and movement patterns creatively by guiding students to embody connections between physical movement, personal meaning, and aesthetic expression in dance. Physical education teachers understand and effectively incorporate purposeful play and improvisation within lessons for students of all ages and abilities. Skillfully guiding students to discover, create, solve problems, negotiate rules, and resolve conflicts interdependently represents a crucial goal of physical education programs. Accomplished teachers synthesize critical concepts of movement forms in a developmentally appropriate manner.

Physical Activity and Wellness

Accomplished physical education teachers have a comprehensive understanding of wellness and how it relates to leading a healthy, active life. They identify the relationship between the skill- and health-related components of physical fitness for their students within daily activities. For example, a teacher may communicate how muscular endurance is important when hiking long distances as well as when shoveling snow. Physical education teachers understand that achieving wellness requires the adoption of positive lifestyle behaviors that lead to improved health, enriched quality of life, and increased longevity. These behaviors include daily physical activity, proper nutrition, stress management, adequate sleep, regular physical examinations, personal safety, and emotional health. Accomplished teachers provide their students with the knowledge they need to embody well-being and dedicate themselves to maintaining personal health.

Sociology and Psychology of Movement

Accomplished physical education teachers are cognizant of sociological and psychological principles related to physical activity, sport, and movement. They instruct their students in ethical practices associated with physical activity, such as fair play, sporting behavior, team selection, cooperation, personal responsibility, citizenship, and respect for oneself and others. Aware of the association between performance and self-esteem, teachers motivate students to express themselves in positive ways, learn self-discipline, and develop an appreciation of their identities as individuals. Accomplished teachers help students gain an understanding of themselves and guide students to establish productive behavioral expectations within group settings.

Legal and Safety Issues

Accomplished physical education teachers know the applicable local, state, and federal laws and initiatives relating to the successful participation of all students on a social, emotional, and physical level. Teachers are similarly aware of current negligence-prevention and safety procedures, as well as liability and negligence issues related to school law. They are therefore familiar with the legal implications of regulations such as Title IX, Section 504 of the Rehabilitation Act, the Individuals with Disabilities Education Improvement Act (IDEIA), and the Americans with Disabilities Act (ADA). Accomplished physical education teachers are fully competent in student placement and guidance processes, such as the referral and evaluation of students supported by individualized education programs. Teachers use their knowledge of guidelines and mandates proactively to create effective, productive learning environments for their students.

Accomplished physical education teachers are committed to working with students to create safe learning environments. They vigilantly observe and teach safety guidelines and procedures across all activities. Physical education teachers know the mechanics of skill development and use that knowledge to teach skill progressions effectively.

When demonstrating skills, they emphasize safe and responsible behavior. Physical education teachers inspect all equipment routinely and require students to be responsible for maintaining proper condition and fit. They hold students accountable for demonstrating responsible behavior and strive to have them internalize safety procedures for a lifetime of careful practice.

Technology

Accomplished physical education teachers are proficient in current technology both to enhance their acquisition of subject matter knowledge and to utilize it within their instruction. They use technology to conduct research, investigating current trends to consider how these may impact student learning. For example, a teacher may use information technology tools such as the Internet or social media to gain more information about the physiological and biomechanical skills required in a set of movement genres. Teachers also employ technology to support student learning via skill analysis and feedback, fitness and nutritional tracking, data collection, and communication with parents and guardians. Physical education teachers anticipate technological advances that may affect the learning environment. As part of their dedication to professional growth, they incorporate the most appropriate technological resources available to enrich their teaching practice and reinforce student learning.

Current Issues and Trends in Physical Education

Accomplished teachers are conversant in the influence that current issues and trends have on the structure and objectives of contemporary physical education programs. They know how the history and development of physical education and sport impact teaching practices in an ongoing manner. Physical education teachers adjust their teaching practice based on a thoughtful assessment of new curricular models and research. They remain informed about social, political, and economic issues influencing physical education within their region and are aware of how these issues affect their profession on a local, state, national, and global level. Accomplished teachers understand how these factors shape learning goals and objectives and help to define the changing roles teachers fulfill within schools and communities. Physical education teachers adapt their practice to meet student needs and address the health issues students face, be that the threat of obesity or any other concern impacting their personal wellness and affecting their productivity as members of society.

Conclusion

Accomplished physical education teachers use the depth and breadth of their content knowledge when planning, designing, implementing, and assessing teaching activities. They carefully reflect on the knowledge they possess to enhance student learning. The subject-matter knowledge of physical education teachers informs their curricular choices and their presentation of skills and content. Accomplished physical education teachers are experts, distinctly aware of what their students need to know and be able to do, as well as how they need to learn it. Accomplished teachers use the

considerable and significant body of knowledge they acquire to impart the sound tenets of a quality physical education.	
---	--

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Physical Education Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/ECYA-PE.pdf>

SCHOOL COUNSELING (ECYA) <i>Early Childhood through Young Adulthood</i>	NOTES
STANDARD II: School Counseling and Student Competencies STANDARD III: Human Growth and Development STANDARD IV: Counseling Theories and Techniques	
<p>OVERVIEW: Accomplished school counselors apply deep and broad understanding of academic, career, and personal/social student competencies. (Standard II)</p> <p>Accomplished school counselors apply comprehensive, in-depth knowledge of human growth and development to improve student learning and well-being. (Standard III)</p> <p>Accomplished school counselors demonstrate a comprehensive understanding of established and emerging counseling theories. They possess a thorough knowledge of techniques and processes that form the foundation for effective school counseling with a diverse population. (Standard IV)</p>	
<p>Standard II: School Counseling and Student Competencies</p> <p>Accomplished school counselors possess a thorough knowledge of the academic, career, and personal/social competencies that students at all developmental levels need for lifelong success. The academic competencies on which school counselors focus relate to the strategies that help support and maximize student learning; the career development competencies provide an important foundation for transitions from school to work and adult life; and the personal/social competencies help foster academic and career success.⁷</p> <p>School counselors address the competencies in the academic, career, and personal/social domains—which are interrelated, mutually supportive, and the foundation of a school counseling program—throughout their school counseling activities. Research shows a strong link between achievement of these competencies and student success in school and throughout life. School counselors encourage students’ hopes and optimism that they can be successful within the domains at their developmental level, and school counselors continually seek to involve parents in their child’s school experiences to help students reach their goals. (See Standard VII—Collaboration with Family and Community.)</p>	

⁷ These definitions of academic, career, and personal/social competencies are from American School Counselor Association, *National Standards for School Counseling Programs* (Alexandria, Va.: Author, 1997), 1.

Academic Competencies

Accomplished school counselors use effective academic counseling to encourage every student to succeed. Knowledge of students' strengths, areas for growth, abilities, aptitudes, interests, and motivations enables school counselors to promote the highest academic standards. School counselors implement counseling strategies and activities that support and maximize student learning and achievement. They do so in many settings: in classrooms, in their offices, and anywhere that they are working with students in the school.

With a thorough knowledge of the schoolwide academic program, school counselors encourage students and their parents to make appropriate academic decisions that lead to success in school and beyond. Accomplished school counselors use their knowledge of human growth and development and counseling to work in partnership with the faculty to assure the appropriateness of academic work in fair, equitable, and diverse learning situations. They are integral members of the instructional team and join with teachers in accomplishing the school's mission. School counselors may also build relationships with post-secondary institutions to provide students with current entrance requirements and scholarship information, and with local employers to help students learn about employers' academic expectations of high school graduates who wish to enter the work force. They may provide for continuity of skills development by building relationships with before- and after-school care programs.

To enrich the entire curriculum and encourage independent lifelong learning, accomplished school counselors actively teach the awareness, development, and application of skills needed in all areas of academic study, and they are adept at integrating such skills into the schoolwide curriculum. For example, the school counselor might work with a mathematics teacher to combine a lesson on lapsed time with lessons on time management and organization. Or, they may show students how to form study groups to enhance the learning of all participants and then monitor students as they practice their skills.

Accomplished school counselors work with students, teachers, and parents to make academic plans. They facilitate communication among students, parents, and staff to set goals, monitor the success of the plan, and make appropriate changes. Furthermore, school counselors help students and their parents make academic transitions from elementary school to middle school to high school, and then to postsecondary education or to work.

Career Competencies

Accomplished school counselors are dedicated to their role in the career development process of students. Through effective career counseling, school counselors use student knowledge, skills, interests, and motivations to encourage all students to explore school-to-future opportunities throughout their preK–12 experiences. School counselors continually help students expand their awareness of careers and of the skills needed to achieve tentative career choices. From the earliest

age of students, school counselors introduce the concept of careers and career pathways and expose students to an array of career possibilities. School counselors help students understand the relationship between consistent effort in school and career success. They acquaint students with role models from diverse gender, ethnic, cultural, and socioeconomic backgrounds. School counselors recognize the benefits of forming partnerships with business and industry, and they serve as liaisons between the school and students' future employers.

School counselors enhance student awareness of careers by using such resources as age-appropriate career inventories, computerized career information systems, career fairs, and job shadowing. They use research-based strategies and activities that help students acquire relevant skills, self-knowledge, positive attitudes, and specific career knowledge. They describe traditional and nontraditional careers and show how these relate to career choice. Accomplished school counselors tailor career instruction, assessment, and dissemination of accurate, up-to-date career information to meet the needs of every student equitably, including those with special needs associated with disabilities or other unique characteristics, or qualities related to culture, gender, socioeconomic status, sexual orientation, or language.

Accomplished school counselors facilitate student development of career plans. These may take the form of career portfolios across grade levels—either print-based or electronic—that document self-awareness and exploration activities as well as planning and preparation for career choices, which may include post-secondary education and training plans and means for financing postsecondary options. School counselors understand the importance of updating these plans annually and of involving parents in the process.

School counselors and teachers become partners on how to integrate career development in content areas through counselor-led staff development. School counselors team with teachers to contextualize lessons, thereby enhancing learning.

Personal/Social Competencies

Accomplished school counselors believe that developing the social and emotional dimensions of students is as critical as career and academic development. They observe, cultivate, and assess the social development of students, noting their comfort level in the school environment, relationships with friends, respect accorded to peers and faculty, sense of belonging, character, integrity, and concern for themselves and others. School counselors offer encouragement and direction to improve interpersonal communication skills and to enhance students' self-respect and respect for others. They encourage students to develop an awareness and appreciation of the needs, views, and rights of others. They employ specific strategies that encourage respect for individual differences related to skills, culture, gender, ethnicity, language diversity, sexual orientation, physical or learning exceptionalities, and other factors. They often, for example, design and direct activities that require students to work cooperatively within a diverse group toward a common goal.

Accomplished school counselors are dedicated to preparing students to be well-adjusted, productive members of society; therefore, they are dedicated to the personal/social development of every student. They model what it means to be caring and ethical by being open-minded and fair. They build appropriate relationships with students and are aware of individual talents, aspirations, and concerns. Through effective personal/social counseling, accomplished school counselors encourage all students to achieve at their highest level. School counselors are aware that a strong sense of self, awareness of one's personal strengths and limitations, knowledge of how to interact effectively and respectfully with others, and a sense of personal responsibility contribute directly to one's academic and career success.

Accomplished school counselors use varied strategies to develop each student's awareness of personal talents, skills, abilities, preferences, and perspectives. They understand that self-confidence comes from the development of skill and competence. They encourage students to take appropriate risks and to measure successes and setbacks appropriately. School counselors know that every student needs to feel successful regardless of personal, home, family, and community circumstances. They work collaboratively to recognize each student's diligence and high academic and career aspirations.

Accomplished school counselors create a variety of opportunities for students to take action, assume responsibility, exercise leadership, and develop initiative. To further students' personal/social development, accomplished school counselors encourage students to be actively involved in school activities, such as ambassador programs, mentor programs, and student organizations. They encourage activities that go beyond the school setting, such as canned food drives, service club projects, and community musical presentations. Through such participation, school counselors assist students in acquiring awareness of their roles as contributing members of society.

Basing decisions on data and identified competencies, accomplished school counselors develop ways of instilling in students the character traits that are important to their lives both in and out of school. In the school setting, school counselors are expert in dispute resolution, stress management, creating and maintaining healthy relationships, and resisting pressure to degrade one's body through unhealthy choices. They help students accept consequences for their actions. School counselors teach problem solving and provide students with opportunities to practice making sound judgments. Accomplished school counselors combine their knowledge of academic, career, and personal/social competencies to provide students with the traits needed for successful lives.

Standard III: Human Growth and Development

Accomplished school counselors use their extensive knowledge of human growth and development to support student success in the academic, career, and personal/social development domains. They apply developmentally appropriate counseling and

<p>educational techniques, consult with other stakeholders to address developmental needs, and examine and adapt programs to meet the needs of the individual learner.</p> <p>Accomplished school counselors possess extensive knowledge of many theories of human growth and development. They are familiar with theories in such areas as cognitive, moral, and social development. They know different theories of personality as well as theories about the formation of gender, cultural, racial, and ethnic identities. School counselors also have a deep understanding of theories of social learning, including resiliency, abnormal and normal behavior, and family systems.</p> <p>Accomplished school counselors have a thorough understanding of developmental stages through the life span. They understand the cognitive, social, emotional, physical, and moral development and needs associated with such stages as early and middle childhood, early adolescence, and adolescence and young adulthood. They also have deep understanding of developmental stages and needs of adults, which helps them to work with parents and other caregivers, as well as with colleagues and the community, on behalf of students. For example, school counselors understand the adolescent student's need for autonomy as it affects school performance and the parents' needs to provide advice and protection. School counselors can assist both students and parents in resolving issues of independence while maintaining emotional support.</p> <p>Accomplished school counselors use their broad knowledge of human growth and development and of learning theories to work effectively with individual students. They are aware of individual students' preferred learning styles, personalities, interests, and extracurricular activities. They are also cognizant of experiential backgrounds that affect acquisition of knowledge, such as age, gender, cognitive and motor development, multiple intelligences, culture, socioeconomic status, language experiences, and exceptionalities. They combine their knowledge of individual students with their background in human growth and development to use appropriate counseling techniques and sound instructional approaches.</p> <p>Accomplished school counselors understand that developmental assets are the internal and external building blocks for the healthy development of well-adjusted, productive adults.⁸ For example, they know the roles in students' development of family support, other adult relationships, service to others, creative activities, school engagement, integrity, sense of purpose, positive view of personal future, and interpersonal competence. They know that assets such as these help students to be caring, responsible, and resilient individuals and to avoid high-risk behaviors, such as alcohol and drug use, sexual activity, and violence. Accomplished school counselors know strategies for helping students build developmental assets, and they understand the importance of focusing on student strengths, fostering student expression, and conveying optimism about the potential of every student. School counselors also help other adults in their school community accept the role of</p>	
--	--

⁸ Search Institute. "Developmental Assets: An Overview." 2002. <<http://www.searchinstitute.org/assets>> (29 August 2002).

strengthening protective factors for students, and they facilitate planning to increase the likelihood of every student becoming a well-adjusted individual.

Accomplished school counselors are knowledgeable about the developmental needs of students with exceptionalities. They know about federal and state laws related to students with exceptional needs, such as the Individuals with Disabilities Education Act.⁹ They know about the special needs of gifted and talented children. They understand the support that is needed when acquiring English as a new language. They know how to encourage learning for children who may be at risk because of such factors as the environment in which they live, learning difficulties, and poverty. They serve as advocates for children with special needs in all stages of their development and work collaboratively with teachers and with school specialists, such as school psychologists, social workers, and speech therapists. School counselors are prepared to provide individual and group interventions to assist students with particular needs, and they use the most effective strategies to meet the varied learning needs of children.

Possessing a strong background in educational practice, accomplished school counselors know an array of specific teaching and classroom-management techniques that are relevant to the developmental level of every student. They implement developmentally appropriate guidance lessons for students across developmental levels. For example, when helping students new to a school with transitions, they might offer a four-year-old an orientation at the school without a parent, help set up a buddy system for a middle childhood student, establish a small support group of new students for early adolescents, or provide a formal orientation program for students at the adolescence and young adulthood level. School counselors also employ appropriate strategies for specific student needs, such as proximity control, seating arrangements, lighting, and grouping strategies.

In the school setting, school counselors are expert on theories, research, and related information that affect student learning in school, community, and family environments. School counselors provide curriculum design and instructional strategies that assist students to respond maturely to educational and social expectations. School counselors know how to design specific interventions that engage students in planned decision making, prioritizing, and problem solving. Accomplished school counselors also offer guidance to parents and teachers in devising developmentally appropriate expectations for student behavior and creating behavior management plans.

In their consulting capacity with students, parents, administrators, and teachers, accomplished school counselors use their knowledge of human growth and development and of students to provide critical input on issues related to attendance, behavior, and academic achievement. In addition, they identify resources that support student achievement, such as study groups, mentoring, and test-taking skills. As advocates for systemic change, school counselors critically review policies,

⁹ Public Law 105-17, 105th Cong., 1st session (4 June 1997).

procedures, school improvement initiatives, materials, and strategies that support the growth and developmental needs of every student.

Standard IV: Counseling Theories and Techniques

Accomplished school counselors use their extensive knowledge of the theories and best practices that support their profession to develop a sound, consistent, professional philosophy of counseling that guides their work with a diverse student population. They articulate the philosophy and belief systems that direct their work with individuals, small groups, full classes, the entire school, and the community. Using this background, they critically examine emerging trends and approaches, continually refine their skills, and consistently share their strong knowledge base with the entire school community to ensure that the needs of every student are met by both the school counseling program and other schoolwide programs. The foundation of the school counseling profession contains knowledge and professional attitudes that promote student development, learning, and achievement.

Accomplished school counselors know the history and philosophy of the major theories in their field, such as humanistic principles, behaviorism, and cognitive-based models. School counselors also know how theorists have modified and varied the basic theories, and they know how to analyze and synthesize different theoretical perspectives to form their own philosophy of counseling. For example, they know that the evolution of brief counseling is derived from cognitive principles, and they are able to articulate if, when, and why they would use brief counseling.

Accomplished school counselors maintain a strong knowledge of individual counseling processes that assist students in setting and reaching goals, solving problems, and maximizing abilities. They understand that their one-on-one counseling with students must be efficient as well as effective. They are outcome-oriented and understand that the counseling relationship must be developed and conducted in a limited period of time. Accomplished school counselors approach individual counseling from a strength-based orientation, seeking to reinforce what is going well in students' lives while helping students resolve their personal issues. They know the theories behind and the procedures for such processes as active listening, establishing rapport, and using reflective statements, and they integrate spoken and unspoken messages as they facilitate students' self-exploration and problem solving. Accomplished school counselors recognize that their role as student advocate is critical, and they strive to balance the needs of the student with the needs of the school.

Knowledge of the principles of group counseling processes is also a vital part of the repertoire of accomplished school counselors. They possess a deep understanding of theoretical models of the group process, and they understand group member roles, group behaviors, and stages in a group's development. School counselors know the theory and purpose of establishing group connections on various interactional levels within the group, such as recognizing when to interact on an individual level, when to encourage further dialogue between two group members, and when to

acknowledge whole-group behaviors. They understand the differences in group dynamics for all developmental levels and for various topics. They also know how to be a leader, facilitator, participant, and observer in group discussion and when each is appropriate to their goals.

Whether working with individuals or groups, accomplished school counselors know how to build and maintain strong relationships with students, parents, and members of the faculty, staff, and administration. School counselors know and possess highly developed communications skills, including clear, concise writing; active, intentional listening; and excellent verbal and nonverbal skills that convey warmth, respect, and genuineness. The accomplished school counselor knows the importance of communicating effectively with students and parents whose primary language is not English and of securing interpretation and translation services as appropriate. They know how to nurture relationships while maintaining clear boundaries in their professional relationships. They have a strong command of the ethical codes of their profession. (See Standard X—Leadership, Advocacy, and Professional Identity.) School counselors are trustworthy and demonstrate honesty, dependability, and appropriate confidentiality. They know how and when to involve other members of the student's environment and to do so in a way that preserves the counseling relationship.

Accomplished school counselors are expert in theories and policies related to multicultural counseling and differences among diverse populations. For example, a school counselor encountering conflicts among cultural groups in a school would know appropriate mediation strategies for such conflicts. School counselors are widely read on multicultural issues and share their knowledge with their colleagues. They also possess self-knowledge of their personal values, beliefs, and prejudices about multicultural and diversity issues and how they affect the counseling relationship.

In addition to these counseling processes, accomplished school counselors have deep understanding of issues that allow them to provide assistance and resources within the context of a school counseling program. For example, they understand the stages of grief and how to make appropriate interventions based on these stages. They understand the emotions and experiences commonly associated with divorce, as well as types of coping skills to recommend to students. They understand strategies for anger management and conflict resolution. Similarly, they understand the effect on students and families of transitions, such as those from grade level to grade level, school to school, family to family, or city to city, and they are knowledgeable about theories and practices for helping students work through such changes. Accomplished school counselors possess knowledge of strategies appropriate to particular conflicts or issues, such as play techniques, art techniques, journal writing, and character education strategies, and they know how to tailor interventions to students of particular developmental levels.

Accomplished school counselors understand the relationship between motivation and behavior and know how to articulate theories of motivation and change to stakeholders. They understand basic human needs and how individuals attempt to

fulfill them, sometimes productively, sometimes ineffectively or dangerously. They are able to identify student motivation issues, and they know techniques that help students increase their motivation. School counselors collaborate with the educational community to ensure that the school's practices, expectations, and climate engage learners in meaningful ways. They help students understand the relationship among motivation, effort, and achievement at school.

Though they are not therapists, accomplished school counselors know the literature concerning the identification of and intervention strategies for common disorders that affect the school population. For example, they have studied the characteristics, causes, and treatment for such disorders as bulimia, social anxiety, depression, attention deficit hyperactivity disorder, and chronic alcohol syndrome, and they can articulate that information to all concerned parties. They are sensitive to indications of impending violence or suicidal behavior. School counselors provide information that assists the learning community in coping with these disorders and experiences.

Accomplished school counselors are familiar with national, state, and local standards for counseling in general and school counseling in particular. They stay current in their knowledge of the school counseling field, and they understand how to implement standards-based school counseling in their daily practice to help students learn, achieve, and grow.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the School Counseling Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/ECYA-SC.pdf>

SCIENCE (EA) & (AYA) <i>Early Adolescence & Adolescence through Young Adulthood (Shared Standards)</i>	NOTES
STANDARD II: Knowledge of Science	
OVERVIEW: Accomplished science teachers have comprehensive understandings of the nature of science, inquiry, and natural phenomena.	
<p>Introduction</p> <p>Accomplished science teachers realize that the goal of science education is to cultivate scientifically literate adults, and they know that productive learning is structured around knowledge of the nature of science, the process of inquiry, the context of science, and science content.</p> <p>The Nature of Science</p> <p>Accomplished science teachers know that scientific thought is multifaceted and that science is a way of knowing about natural phenomena. Science educators have identified a core set of concepts that express the nature of science: science is reliable and yet tentative; science is based on empirical evidence; science relies on observations and inferences; science utilizes theories and laws; scientific knowledge is generated through multiple methods; science is a creative and imaginative human endeavor; and science is a human activity that takes place within a cultural, political, and economic context.</p> <p>Accomplished science teachers understand science as an expression of the deep human impulse to explore and learn ever more about natural phenomena. Teachers have a thorough grasp of science as a sense-making activity, that is, an approach to building a consistent, testable set of understandings about natural phenomena. Accomplished teachers are aware of the many complex ways in which scientific knowledge is generated, such as through experiments, correlational studies, and observations; they understand that there is no simple scientific method through which all scientific understanding is achieved. Accomplished teachers know how to apply scientific understandings to engineering practices. They also know how to help their students develop an understanding of the nature of science and to use this understanding to make informed decisions in their daily life.</p> <p>Accomplished science teachers realize that in order for students to understand the nature of science, students need to engage in hands-on investigations. However, teachers also know that students do not develop an understanding of the nature of science through investigations alone; they require explicit instruction. For example, through an investigation of a pendulum, an accomplished teacher might illustrate how</p>	

scientific knowledge is built on empirical evidence. The teacher would help students understand how the observations they make of a specific pendulum can be used to create a general model that can be used to predict and describe the behavior of all pendulums. The teacher could subsequently provide opportunities for students to apply their model in order to discover its strengths and its limitations. (See Standard III—Curriculum and Instruction.)

Understandings about Inquiry

Accomplished science teachers understand that inquiry is important to science classrooms for two basic reasons. Inquiry is both the process scientists use to learn about natural phenomena and a process that students can use to develop their knowledge of science content and their metacognition related to the field of science. (See Standard III—Curriculum and Instruction.)

Accomplished science teachers understand that scientists use inquiry to learn about natural phenomena. Scientific inquiry involves making observations; posing questions; examining books and other sources of information to see what is already known about a given subject; planning investigations; using tools to gather, analyze, and interpret data; proposing answers, explanations, and predictions; and communicating results. Inquiry requires the identification of assumptions, the use of critical and logical thinking, and the analysis of alternative explanations. Inquiry must be undertaken with consideration for the ethics of the scientific process.

Accomplished science teachers provide students with multiple opportunities to engage in scientific practices, including inquiry. They teach students how to develop scientific questions, design and conduct investigations, obtain and analyze meaningful data, and arrive at conclusions. (See Standard III—Curriculum and Instruction.)

Accomplished science teachers know that their students need more than the ability to conduct scientific inquiry. Students need to possess a deep understanding about the capacity of scientific inquiry to generate knowledge, solve problems, answer questions, generate new questions, and enhance collaboration. Accomplished teachers facilitate the process through which students learn to combine their ability to conduct investigations, their understandings about scientific inquiry, and their critical thinking skills to further their own scientific understandings.

Context of Science

Accomplished teachers realize that there are many different lenses through which science can be viewed, including historical, personal, sociocultural, technological, and ethical perspectives.

Accomplished science teachers make sure that students develop a rich and diverse historical perspective on science in order to understand how science developed as a discipline. Teachers provide students with evidence that scientific understandings are continually built upon prior knowledge. Historically, scientific advancements have

resulted from collaboration among the disciplines of science, mathematics, technology, and engineering. A historical perspective makes students aware of the impressive technological achievements of early cultures and the substantial contributions of women and men from different cultural groups. For example, a teacher might point out the contributions of Islamic cultures to the fields of astronomy and medicine and the discovery of papermaking in China more than two thousand years ago.

Accomplished science teachers realize that presenting science as a human endeavor enhances students' appreciation of scientific progress. Accomplished science teachers acquaint students with the biographies and perspectives of scientists who have made major discoveries and helped shape our world. Teachers might use biography to help students perceive how scientists such as the following overcame adversity to advance the understanding of science: Percy Julian, an African American who was the inventor of synthetic cortisone and drugs to treat glaucoma; Shirley Jackson, who was the first African American woman to receive her Ph.D. from M.I.T; and Fred Begay, a Navajo, who is known for the alternative use of lasers and electronic ion beams to heat thermonuclear plasma.

Accomplished teachers connect science to sociocultural perspectives that are meaningful to students. Accomplished teachers know that science is a collaborative enterprise that depends upon sharing knowledge. Scientific endeavors reflect the social and cultural issues that predominate at a given time. Teachers connect the unifying concepts of science to such areas as personal and community health, population growth, utilization of natural resources, environmental quality, naturally occurring and human-induced hazards, and science and engineering in local, national, and global scenarios. For example, a science teacher might relate the biological impacts of drug and alcohol use to community concerns related to these substances.

Accomplished science teachers are aware of the interdependent relationships that exist among mathematics, technology, and engineering. Teachers explain how advances in scientific knowledge lead engineers to develop new technologies and vice versa. Accomplished teachers ensure that students know that science and technology, while related, are pursued for different purposes. Whereas science seeks to understand natural phenomena, technology and engineering are often driven by the need to solve human problems.

Accomplished teachers help their students understand the impact that scientific discovery has on society and the ethical responsibility of scientific investigation. For example, teachers might include case studies of technology-generated changes such as space travel or might have students debate controversial issues such as cloning or nuclear power. In addition, accomplished teachers might provide opportunities for students to address ethical responsibility within their own community by investigating an issue such as the deforestation of a local area.

Teacher Content Knowledge

Accomplished science teachers possess a strong understanding of the concepts,

themes, principles, laws, theories, terminology, and factual information that demarcate the specific bodies of scientific knowledge that they are responsible for teaching. They also understand how those bodies of knowledge connect with other scientific disciplines. Accomplished science teachers recognize the importance of mathematics in science and are able to make its application visible to their students. For example, an accomplished teacher would be able to apply algebra to stoichiometry or calculating the speed of an object, geometry to vector analysis or the refraction of light, statistics to determining averages, and probability to Punnett squares. Accomplished teachers stay well informed about current research and developments in science. Teachers understand the role that technology and engineering play in shaping the constructed environment, human interactions, and daily life.

Not only do accomplished teachers have a deep understanding of the specific content knowledge they teach, but they also comprehend the unifying concepts and processes that cut across all areas of science, including cause and effect, systems, patterns, quantity, energy and matter, stability versus change, and structure and function. While instructing their students in the specific subject matter of science, accomplished teachers continually refer to these big, crosscutting concepts, emphasizing their ultimate importance.

All accomplished science teachers possess an understanding of core ideas in the following aspects of science.

Earth and Space Sciences

Accomplished science teachers understand the current theories about the origin, composition, and structure of the universe and the motion of the objects within it. They also understand that many of the phenomena observed on Earth involve interactions among components of air, water, and land that are driven by the transfer of energy. Accomplished teachers realize that various cycling processes shape the Earth's surface, and they understand the relationship of these processes to environmental conditions in the Earth's atmosphere, oceans, and land masses. Accomplished teachers understand earth and space science through an interacting systems approach.

Life Sciences

Accomplished science teachers understand the diversity and unity that characterize organisms; the genetic basis for the transfer of biological characteristics from one generation to the next; the structure and function of cells; the organization and physiology of living organisms; the dependence of all organisms on one another and on their environment; the flow of energy and matter in the living environment; the behavior of organisms; the basic concepts of the evolution of species; and the consequences of species loss.

Physical Sciences

Accomplished science teachers understand the basic properties of matter and the principles governing the interactions between matter and energy and between matter and other matter; the conservation of energy and energy transfer; motion and the principles that explain it; the nature of atoms and molecules and the behavior and interactions between them; the forces that exist between and within objects and atoms; and waves and their applications.

Depth of Knowledge

Accomplished science teachers have in-depth knowledge of those disciplines they teach in addition to a foundation of scientific knowledge in all of the disciplines. Consider the example of clouds and precipitation. Accomplished science teachers know how the water cycle affects the origins of water vapor in the atmosphere; the principles of evaporation, condensation, and convection; the fact that different cloud types are related to various weather patterns; and the phenomenon and causes of acid rain. However, teachers specializing in earth, environmental, and space sciences have a greater depth of understanding of how natural phenomena such as volcanoes produce emissions of nitrogen and sulfur oxides and how these atmospheric pollutants can impact air and water quality. Teachers specializing in the life sciences have a deeper knowledge of the effects of acid rain on the ecosystem and on the structures and functions of various organisms. Teachers specializing in the physical sciences know more specific information about how acid anhydrides dissolve in water and react with carbonates and metals or how rain falls at a constant velocity when the forces on it are balanced. Regardless of their particular specializations, accomplished teachers understand the relationship of the topic of clouds and precipitation to the crosscutting concepts of energy and matter, flows, cycles, and conservation.

Accomplished science teachers at both the early adolescent and the adolescent-young adult levels ensure that they have the necessary knowledge and skills to teach the curriculum and meet the cognitive needs of students. If a gap in their own scientific understanding is identified, teachers seek out formal or informal science learning opportunities (such as college classes, workshops, conferences, research experiences, and opportunities that combine pedagogy and science) to deepen those understandings. As naturally curious lifelong learners, accomplished science teachers continually expand their content knowledge to remain current and enhance their students' science learning. (See Standard VII—Advancing Professionalism.)

Accomplished science teachers recognize that the overall coherence of their understanding is more valuable than mere recall of fact. The knowledge base of accomplished science teachers is highly integrated.

Reflective Practices

Accomplished teachers reflect on the nature of science. These teachers reflect on their understanding of science as a human endeavor to understand natural phenomena. They try to determine how well they incorporate the tenets of science in their instruction. Accomplished teachers reflect on how the nature of science is represented

in the curricular choices they make, and the degree to which students demonstrate an understanding of the nature of science. Accomplished teachers monitor how often they use explicit instruction to make connections for students between classroom investigations and the nature of science. Teachers analyze the opportunities they give students to experience the nature of science in their science activities, and teachers evaluate the ways in which they attempt to make those experiences more transparent to their students.

Accomplished science teachers reflect on their understanding of inquiry. They think about the degree to which they guide students in making connections between classroom investigations and understandings about scientific inquiry. Teachers monitor not only students' understanding of content but their understanding of the practice of science, which includes scientific inquiry. Accomplished teachers also reflect on the frequency and extent of opportunities for students to engage in scientific inquiry. Accomplished teachers reflect on how often their learners engage in making observations; posing questions; referencing other data; planning investigations; using tools to gather, analyze, and interpret data; developing hypotheses and justifying claims; and communicating results.

Accomplished teachers reflect on how their own content knowledge and pedagogical knowledge support the practice of teaching science. These teachers reflect on their depth of comprehension and monitor their developing scientific understandings. In specific areas where they perceive gaps in their content knowledge, accomplished teachers participate in professional learning opportunities. Accomplished teachers reflect in order to identify authentic applications of content understandings to real-world situations. Finally, accomplished teachers reflect on their role as lifelong learners and the ways in which they model a commitment to learning science.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Science Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EAYA-SCIENCE.pdf>

SOCIAL STUDIES-HISTORY (EA) & (AYA) <i>Early Adolescence & Adolescence through Young Adulthood (Shared Standards)</i>	NOTES
STANDARD III: Content	
OVERVIEW: Accomplished social studies–history teachers ground their teaching practice in a sound foundation of content knowledge.	
<p>Introduction</p> <p>Accomplished social studies–history teachers base their teaching practices on a deep knowledge of content¹⁰ that evolves throughout their careers. Through their training, background, and knowledge of the core concepts of the multiple content areas that compose social studies–history, teachers exhibit a range of content knowledge and are able to facilitate substantive learning opportunities for their students. This content familiarity, and in many cases expertise, allows teachers to rely not on simplistic content delivery but on creating continued and significant opportunities for students to engage in the complexity of concepts and material of history, economics, geography, and civics and government.</p> <p>Accomplished teachers have a solid foundation of content including themes, conceptual structures, and core organizing strategies that undergird the teaching of history, economics, geography, and civics and government—both as discrete content areas and in an interdisciplinary fashion. Teachers also have a solid foundation in disciplinary ways of thinking, including the application of quantitative and qualitative analysis of a variety of forms of data and evidence. Teachers strike a careful balance between an extensive focus on content material and the need to provide students with opportunities to navigate, organize, and analyze content material in a structured, integrated, and meaningful manner.</p>	

¹⁰ The organization of social studies–history content into world history, United States history, economics, geography, and civics and government is not intended to suggest a hierarchical order for the study of social studies–history. The content sections are not meant to suggest specific content knowledge, but rather broad themes, habits of mind, and ways of thinking about social studies–history. Because the behavioral sciences, such as anthropology, psychology, and sociology are less frequently part of school curricula, these standards do not identify specific subject matter for these disciplines that share the same broad themes, habits of mind, and ways of thinking about social studies–history but are an integral part of the content sections identified in these standards.

Accomplished teachers are aware of the breadth and depth of material within the different content areas that compose social studies—history and adjust their content focus and level of detail for students at the elementary, middle, or secondary levels.

Accomplished teachers are aware that the content areas encompassing social studies represent a translation and selection of content informed by, but not limited to, the academic fields of history, economics, geography, and political science. Teachers recognize that compartmentalization and integration of content areas at the elementary, middle, and secondary levels may represent a challenge; however, teachers skillfully navigate this challenge.

History

For accomplished social studies—history teachers, history provides an opportunity for students to explore narratives of the past, analyze their complexity, examine the lives and actions of groups and individuals, and take part in ongoing and contested interpretations of the historical record. History thus provides a rich context for understanding the development of human society and the multiple groups that compose it. Rather than a static record of the past, history is rich in themes, contradictions, accomplishments, and cautionary tales. Teachers make history relevant and important to their students by showing that they, too, are part of this ongoing development of the human story.

Accomplished teachers demonstrate facility in bringing out the human experience, highlighting the lives, roles, successes, and foibles of individuals. Moreover, teachers concentrate on relationships of individuals to their contemporaries in historical time and, by extension, their relationships to small groups, larger communities, and society as a whole. History becomes more than an unchanging story of events, dates, and deeds of the famous; it becomes a set of developing narratives of individual choices, human relationships, and complexity of relating to others—the multifaceted intersection and interchange of real people, and groups of people, in real places. As such, history reveals narratives beyond the famous and bold-printed individuals of consequence. Teachers bring to life the often neglected lives of ordinary people in different times and places, and they see such people as actors, not merely as the invisible or acted upon.

Accomplished teachers use history to demonstrate the connectedness between local, regional, national, international, and global histories. Teachers facilitate identification of themes and events that reveal themselves as affecting the lives of individuals and groups of people at varying levels of scale.

Accomplished teachers know history is more than “a story well told,” and that students will develop a meaningful understanding of the subject only if they have systematic and ongoing opportunities to engage in historical thinking. Teachers provide such opportunities by engaging students in regular analysis and comparison of a variety of primary and secondary sources. They provide opportunities for students to identify what can and cannot be learned from these sources, and how

their form and content have been influenced by the context of their creation. Rather than presenting isolated exercises in source analysis, teachers help students use sources as evidence in creating their own defensible historical accounts, or to confirm or complicate the accounts of others. For example, by drawing on oral histories, newsreels, photographs, correspondence, and government-produced posters and brochures, students may develop varied conclusions about the lives and work of women during World War II. Teachers facilitate students' analyses of differences in how these sources represent women's experiences during this era, and they help students create defensible accounts of women's lives based on critical examination of multiple pieces of evidence.

Accomplished teachers also engage students in historical thinking by systematically examining and comparing historical perspectives. Teachers help students understand the contexts in which historical actions, events, and processes occurred, as well as the ways they have been interpreted over time. Rather than presenting human actions and motivations as though they were the same in all times and places, teachers help students see how the viewpoints of people during the time under study were influenced by societal norms, attitudes, and beliefs; how different groups and individuals saw events at the time; and how those perspectives compare to the interpretations of later generations. In studying conflicts between Christians and Muslims from the 11th through the 13th centuries, for example, teachers help students examine how military leaders' ideas about warfare were influenced by religious precepts, cultural norms, and political or territorial goals, and how their experiences differed from those of civilian populations affected by conquest. To help students understand how changing perspectives have led to reinterpretation of these conflicts, teachers might lead students in comparing textbook accounts from the early 20th century and today. Students also could compare references to these events in contemporary political rhetoric.

Accomplished teachers further engage students in historical thinking through attention to historical agency. Rather than presenting historical events as inevitable, teachers highlight the complicated ways in which groups and individuals in history took action to change or conserve their ways of life and the forces that assisted or hindered them in doing so. The focus on agency involves considering the complex goals that motivated historical actors, their conflicts and alliances with others, the institutional structures within which their actions took place, and criteria for evaluating the success or failure of their efforts, including both intended and unintended consequences. In studying desegregation of U.S. schools, for example, teachers help students understand how African American communities provided educational opportunities before *Brown v. Board of Education*; consider the individual and collective efforts involved in legal challenges to school segregation; debate whether integration or equality of school funding were most likely to serve the needs of African Americans; and examine the impact of desegregation on both white and African American communities.

World History

The study of world history tells the story of connections and interactions among human societies. Through examination of world history, teachers explore patterns of continuity and change that transcend any one society, nation, or empire. Using global and interregional patterns, as well as contextualized comparisons and case studies, world history crosses boundaries and links systems in the human past.

Accomplished teachers facilitate students' understandings of multiple and often competing narratives in world history. Teachers assist students in examining large global patterns, making connections across time and space, using comparison, investigating shifting boundaries over time, and analyzing contextualized case studies. Teachers engage students in concepts such as migration and periodization. Teachers are able to shift between different scales from local to regional to global, depending on the object of inquiry or temporal period of study.

Accomplished teachers facilitate students' abilities to analyze how events, people, institutions, ideas, and environmental issues throughout history provide context for later developments and the present-day world. For example, teachers could provide students with opportunities to interpret primary sources and maps as evidence of the Islamic Empire's domination of major overland and sea trade routes in Eurasia and the Indian Ocean in the 14th and 15th centuries in order to analyze reasons for the shift to Atlantic trade routes. In studying the Roman Republic, teachers may have students compare descriptions of the Roman government from the writings of the Roman historian Polybius on the separation of powers with relevant sections from Montesquieu's *Spirit of Law* and Hamilton's "Federalist Paper Number 9."

Accomplished teachers create opportunities for students to develop a global understanding and respect for the diverse and sometimes divergent narratives of regions and peoples around the world. Teachers balance this respect for diversity with knowledge of large interregional and global patterns and ways in which local or regional events either do or do not connect to those patterns at different periods of time. Teachers recognize similarities and differences between regions in terms of continuities and changes in human societies and corresponding patterns of organization and connections. For example, although areas of the world have undergone agricultural revolutions, teachers know that these revolutions did not happen in the same time period or in exactly the same manner for all regions. In discussing changes in Neolithic agricultural settlements, teachers can compare different regions and also connect regional changes to larger patterns of economic and societal shifts in agricultural communities.

Accomplished teachers explore with students how boundaries and borders— such as ethnic and racial, political, religious, economic, or geographic—have developed and shifted over time. Frontiers develop along borders distant from places of authority and can become places of innovation, change, and conflict. For example, teachers may examine kingdom, state, and colonial borders and boundaries before and after European imperialism in the African continent and examine effects of these shifting

borders on various African peoples, including resistance, nationalism, and the Pan-Africa movement. Teachers emphasize the spread of ideas and goods across boundaries and frontiers. For example, they might investigate why the Central Asian invention of the stirrup spread rapidly and, consequently, radically changed the use of horses in warfare.

Accomplished teachers adeptly identify significant principles, innovations, and societal patterns of organization that extend beyond the borders of societies or cultural groups. Teachers emphasize the manner in which different cultures over time have influenced one another in ways that have shaped the story of human history. For instance, teachers recognize the two-way contact and exchange of plants, animals, and pathogens between hemispheres during the Columbian Exchange—one example of which was the effect the South American potato had on the demography of Western Europe. Teachers can also connect this exchange to the nineteenth century Irish potato fungus, the migration of the Irish to the United States, and the effect this plentiful, cheap supply of labor had on early industrialization.

Through comparison, accomplished teachers analyze different regions or cultures and connect those to patterns at different scales. For example, teachers might connect Cold War experiences of countries such as Cuba, Congo, Iran, Nicaragua, Vietnam, and Korea to larger patterns of Soviet and U.S. ideological and military competition. Teachers might use comparison to have students analyze to what extent Marxist ideas of gender roles and gender equality reflected the realities of communist life in China, the Soviet Union, and Poland throughout the twentieth century.

Accomplished teachers know large global and interregional patterns and develop lessons that allow students to see these larger patterns. Those patterns could include urbanization patterns; trading systems throughout time; or the roles of global, international, and non-governmental organizations in the twentieth and twenty-first centuries such as the United Nations, European Union, NATO, the African Union, International Red Cross and Red Crescent, or Greenpeace. For example, teachers might guide students in an analysis of the commonalities and differences in the emergence and growth of the European Union and MERCOSUR, a South American trade organization.

Accomplished teachers can develop or use contextualized case studies to exemplify larger interregional or global patterns. For example, teachers may engage students in studying the development of railroads in Argentina or India in the mid-nineteenth century to analyze larger patterns of industrialism and global trade. Teachers recognize that shifting scales from local to global is necessary in world history, and they know the appropriate time to use a contextualized case study to facilitate students' knowledge of larger patterns.

Accomplished teachers employ their deep understanding of content to lead students in evaluating the impact of major human migrations and the resulting global diffusion of peoples, ideas, goods, plants, and pathogens in world history. This evaluation includes the effects of these movements over time and distinguishes between

nomadic, semi-nomadic, and sedentary groups and their adaptation to and alteration of the environment. This study may include movements of the Bantu, Aryan, central and east Asian, and Native American peoples, and the settlement of areas that later evolved into cities, city-states, and early empires such as Harappan, Nubian, Mediterranean, Olmec, and Andean. Teachers provide opportunities for students to identify multiple causes and complex push and pull factors that shape migrants and the choices they are given or are denied. Teachers illuminate differences between voluntary and involuntary emigration and immigration that are based on causes as varied as food supplies, civil conflicts, and religious persecution. Teachers distinguish among and identify examples of slavery, diasporas, missionary conversion, colonial expansion, and the search for increased economic opportunity.

Accomplished teachers know there are many ways to periodize the history of the world because of multiple and often competing narratives. They know that engaging students in the exploration of different periodization schemes allows them to examine the historical tools of chronology and significance and grapple with complexities in world history, including simultaneity and events occurring over long periods of time, as well as possible political and social implications of periodization. For example, teachers might provide opportunities for students to consider how developments in world history could be organized differently based on technology, economic production, political dynasties, demographic patterns, or religious developments, as well as ways in which each of these might be viewed differently by people in various regions of the world.

United States History

United States history is the study of settlement, expansion, and development of the country—geographically, culturally, socially, politically, and economically. It explores the nation’s ideas, ideals, and identities, as well as social and reform movements that have involved the quest for a more perfect union. Accomplished teachers recognize that while the United States is now and has always been a pluralistic society, the country’s story involves many people with broad interpretations of widely shared ideals. They know the U.S. American story is unfinished, and many of its ideals and aspirations are not yet fully realized.

Accomplished teachers know the origins of U.S. history are rich and complex and involve native peoples, European explorers, missionaries, colonists, and enslaved people. Teachers are able to connect periods of exploration, encounter, conquest, and colonization to the continuities and changes experienced by native populations. They explore early demographic shifts involving voluntary and involuntary migrations, and they analyze how a composite U.S. society was created out of such diversity. For example, teachers might examine the complex effects of European colonization and the interaction among Native American populations as they were forced westward.

Accomplished teachers know the events, traditions, and people that influenced the founding of the United States and their lasting implications, achievements, and consequences. They know how philosophical influences on the founders played out

in developing founding documents and the impact those documents had on U.S. history. For example, teachers know how slavery was and was not addressed in the Constitution and the impact this treatment had on the Union. Teachers assist students in identifying core ideals, such as justice, rights of minorities, individual rights, freedoms, and responsibilities. Teachers can trace how founding documents have been translated into governmental institutions and how those institutions have shaped U.S. history. Teachers understand that the many disagreements that occurred during the founding period are similar to disagreements throughout U.S. history and continue today, such as states' rights versus federal power. Although teachers provide opportunities for students to explore how founding ideals have developed in U.S. history, they do not gloss over complexities and contradictions in meeting these ideals. They acknowledge historical, social, economic, and geographical factors that have continued to challenge these ideals, such as racial and social inequality and religious intolerance. Teachers assist students in seeing challenges and opportunities inherent in establishing and continuing to perfect a constitutional democracy.

Accomplished teachers know U.S. history is the story of ideas and ideals that have played a central role in shaping unique identities throughout the country's history. They facilitate students' explorations of debates around powerful ideas such as the notion of American Exceptionalism, which suggests the United States is unique among nations of the world in its origins, ideals, religious and political freedom, equality of opportunity, and standing in the world. Teachers also examine U.S. ideals such as the value of individuals' abilities to shape their own futures and determine their own success. Teachers can define these ideas and ideals in the ways they have shaped U.S. identities on both national and regional levels. For example, teachers might explore with students the ways in which the ideas of Yankee ingenuity and the ideal of the Puritan work ethic shaped the lives of New Englanders during colonial times and how it manifests in some modern-day practices.

Accomplished teachers lead students to discover how activism in the form of social reform movements helped shape U.S. history by, for example, expanding access and extending rights to groups denied equal political, economic, or social rights and opportunities. Early movements to abolish slavery, allow women to vote, grant workers the right to organize, support farmers, and eliminate poverty represented a persistent belief in continuing progress toward the American Dream of access to opportunity, self-determination, and prosperity for all. Teachers can provide opportunities for students to analyze the struggle to create a more perfect society, which served as a safety valve that prevented widespread disruption and even political revolution. Students might also evaluate the extent of success and failure over time in achieving a more perfect society.

Accomplished teachers facilitate students' knowledge of the ways in which different ideas about U.S. culture have entered the national consciousness. Teachers explore with students differences between memory and history. Teachers recognize that the country has been selective in ways it has chosen to remember certain events from the past. They distinguish with their students events that occurred in the past and ways in which we choose to commemorate them. For example, secondary teachers

might ask students to view and analyze clips of the film *Birth of a Nation* and appropriately guide students in analyzing the way in which the country for many years remembered the Reconstruction Era and how popular memory influenced public policy during most of the twentieth century. Teachers might ask students to examine local and national memorials and reasons why individuals and groups sought to preserve certain events rather than others.

Accomplished teachers know U.S. history is centrally defined by characteristics of diversity and pluralism, descriptors that reflect ways in which the nation has developed in its shifting patterns of exclusion toward inclusion, as well as a cultural flowering, ranging from architectural styles to cuisine to music. Teachers facilitate students' examination of ways, for instance, in which diversity of race, ethnicity, political persuasion, or socioeconomic status are central indicators reflecting national growth, sectional tensions, or the movement towards full participation and access within U.S. society. Teachers further explore the pluralistic nature of U.S. society and provide opportunities for students to identify the different ways in which the nation's history has been defined by tensions involving shifting patterns of exclusion, assimilation, and ideas of a pluralistic society. For example, teachers might explore with students the expanding definition of citizenship throughout U.S. history and the eventual movement to include, for instance, common men, women, African Americans, American Indians, Latinos, and immigrants—ultimately examining how each progressive phase of inclusion has shaped the notion of a common society.

Accomplished teachers help students understand how the lived experiences of people in the United States have changed over time. Teachers explore technological developments and their effect on industry and daily life; changing methods of transportation and their impact on work and leisure; evolution of gender expectations and their influence on family life, economic opportunities, and sexuality; ways in which the environment has affected settlement, architecture, and the use of resources, as well as how people have transformed their environment; changing religious beliefs and their effect on U.S. identity; shifts from primarily rural to urban patterns of settlement, and from a primarily agricultural to an industrial and mixed economy; and the variety of ways in which literature and the arts have been used to explore individual and collective experiences. For example, teachers could use songs such as Billie Holiday's "Strange Fruit," Randy Newman's "Rednecks," and the Civil Rights anthem "We Shall Overcome" to analyze interpretations of race relations in the twentieth century.

Accomplished teachers examine the innovative spirit of entrepreneurs of the United States as the country moved from an agrarian economy toward industrialization and globalization with international expansion and sharing of cultures. For example, teachers are able to compare the effects of the multitude of inventions accompanying the Industrial Revolution with the effects of the explosion of technological innovation of the late twentieth century.

Accomplished teachers provide students multiple opportunities to explore forces driving dynamic spatial and demographic patterns of population in the United States.

Teachers examine origins, destinations, motives, and pathways of immigration at different periods of time in different regions of the United States to explore cultural, social, economic, and political effects of both rural and urban in- and out-migration. At a different scale, teachers may map significant regional migrations—such as movement of members of the Church of Latter Day Saints to the Great Salt Lake, the post-World War I Great Migration of African Americans, or movement of farmers to the West Coast during the Dust Bowl—and use these migrations to discuss push and pull factors behind migration. By tracing changes in U.S. demographic characteristics, such as birth, marriage, and death rates; life expectancy; and family size at different periods of time, teachers assist students in observing connections among population growth, economic development, and development of institutions. For example, in studying westward expansion into and settlement of the Great Plains, students might compare census data from 1860 to 1900 in order to consider the impact of migration on the social structure and culture of the region. Teachers can use relationships among the environment, industrialization, and urbanization to recognize distribution and density of population in the United States in the past and today, as well as the forces driving urban growth, decline, and evolution of new forms of settlement in the United States. In a contemporary context, teachers can use sources such as online telephone books to observe unique characteristics of regions of the United States to show, for example, the prominence of surnames in particular regions and the distribution of houses of worship, and connect these patterns to past and recent migrations.

Accomplished teachers recognize that one event in history can encompass multiple components, and teachers weave these components into a complex examination of an event. For example, an event such as the completion of the transcontinental railroad in 1871 will lend itself to exploration of competing interests, such as power and politics; economics and technology; and culture, identity, and society. Students should understand that the transcontinental railroad was made possible by the intersection of various interests, such as those of entrepreneurs and engineers and by the labor of different groups such as the Chinese, Mormons, Irish, and African Americans.

Accomplished teachers know U.S. history takes place in a larger global context and that the country's history has also been defined by its relations with other societies and nations. Foreign policy is a history of interactions and relationships with foreign powers since the time of the American Revolution. Teachers lead students to examine the shifting role, responsibility, and presence of the United States on the world stage and to analyze the position of the United States in relation to other nations of the world in the present day. This study provides an opportunity for students to examine and contextualize how U.S. involvement in military conflict affects and is affected by its relationships with other countries. For example, as students study the Civil War, they can research how other countries used observations about the military conduct of this conflict to shape their own countries' policies, ultimately affecting the strategies of World War I. Students might also examine the relationship between changing views of the political role of the United States on the world stage and the use of its military to uphold a particular political stance. For example, teachers might

explore the use of the Roosevelt Corollary to justify intervention in Latin American countries. Teachers might also examine the United States' role in the Marshall Plan, the United Nations, and the World Bank.

Economics

The study of economics examines how decision makers use, allocate, and distribute scarce resources and how they arrive at the choices they make. Individuals make decisions in a variety of contexts on behalf of themselves, households, firms, governments, and other organizational structures. The exploration of economics examines the extent to which costs, both intended and unintended, arise from economic choices. While the U.S. economic system is primarily organized around a market system, societies throughout history have used a variety of economic structures to organize production, distribution, and consumption.

Accomplished teachers have in-depth knowledge of an extensive range of economic concepts. They know the central economic problem involves the desire to make optimal choices in a world in which resources are scarce and uncertainty prevails. Teachers have comprehensive knowledge of economic topics across a range of areas, including voluntary exchange, markets and prices, competition and market structure, economic growth, measurement of economic performance, fiscal policy, monetary policy, income inequality, economic role of government, market failure, and productivity and economic efficiency, among other things. Teachers are able to use the economic way of thinking to analyze economic costs and benefits as a means of making purposeful decisions, for example, in determining the ideal level of production for a firm.

On the other hand, accomplished teachers know economics is a distinct content area with its own set of concepts, processes, and tools. Teachers engage students of all ages and backgrounds to develop an economic way of thinking. The economic way of thinking connects economic principles to the ways in which people make informed decisions, solve problems, and reason through complex issues. A student using an economic way of thinking is able to intellectually organize economic theories that can be applied to make predictions, draw inferences, and solve real-world problems. Teachers are able to inspire students to internalize this economic way of thinking to employ economic considerations whenever decisions are made. Teachers are able to make connections between the study of economics and students' personal lives. For example, teachers may have students create a cost-benefit analysis for coming to school. Teachers at the secondary level, in particular, would be able to use a cost-benefit analysis to evaluate more complex problems, such as why the U.S. government should or should not ration a resource like oil in times of crisis or why a community should or should not offer tax incentives to encourage businesses to relocate.

Accomplished teachers know economics has multiple applications and points of entry into the rest of the social studies. As a content area that examines how scarce resources are allocated and distributed, economics can assist in informing students'

knowledge of historical events and issues. For example, the accomplished U.S. history teacher is able to connect the economic, political, and social forces that influenced the founding of the Federal Reserve in 1913 to the financial crises of 1907 and 2008. Teachers are also able to incorporate their understanding of the ways in which people respond to incentives to make inferences about the nature of causal economic relationships. For example, teachers can engage students to use higher-order thinking processes to examine why the incentive structure associated with the organization of production in the command economy of the former Soviet Union led to an inefficient distribution of resources and that nation's ultimate failure as an economic system. An accomplished world history teacher might examine hyperinflationary experiences of interwar Germany in 1923.

Accomplished teachers are able to make connections between content that is central to the study of economics and the processes and concepts found in other subjects. For example, they may explore the economic context that centrally influenced the writing and framing of the U.S. Constitution and analyze various clauses that make it, among other things, an economic document. In a geography unit, teachers can engage students to think creatively about the ways in which trends associated with the growth of the service sector can contribute to an altered and evolving pattern of trade over time and across regions.

Accomplished teachers are familiar with a range of economic theories, such as how growth in money supply affects price level in the long run. Teachers are also able to compare and contrast views of different schools of economic thought such as those of Classical, Keynesian, Monetarist, and Supply Side economists. Teachers are able to weigh theoretical arguments for and against protectionist policies that limit free trade. They can apply economic models of supply and demand to make predictions about variation of prices and quantities exchanged. They are able to analyze different views of the impact of tax cuts on short- and long-run economic performance.

In order to solve problems and make purposeful decisions, accomplished teachers guide students to use key tools and measurement methods, such as analyzing real world data; interpreting or creating tables, charts, and graphs; and making economic and financial calculations. For example, in the study of geography, a social studies–history teacher could use measurement tools of Gross Domestic Product (GDP) and Per Capita GDP to examine differences between absolute and relative poverty. Teachers might take a step further and evaluate the use of market tools, such as property rights and division of labor, to make recommendations on how to better economic conditions in countries suffering from absolute poverty. To demonstrate the importance of economic interdependence, teachers might use a diagram to explain circular flow of economic activity and apply the diagram to models of social cooperation. Teachers may assign students to conduct an inquiry into a local economic problem, such as whether a municipality should provide its own waste removal services, by collecting, interpreting, and analyzing economic data.

Accomplished teachers in subject areas such as world and U.S. history, geography, and civics and government often address economic issues when dealing with topics

focused on social consequences of economic practices or on attempts by groups and individuals to overcome economic circumstances that affect their lives. Such topics include union organizing, economic boycotts, labor relations, warfare and conflict, governmental corruption, individual and community poverty, homelessness, international trade, exploitations of sex workers, impact of extractive industry on local communities, and many others. For example, in examining the West Virginia Mine Wars of the 1920s, teachers may engage students in considering factors that led to development of the mining industry; employment practices of mining companies; living conditions of workers; and how competing interests of miners and owners led to union organizing, labor strikes, physical and economic retaliation, and involvement of local, state, and national governments. Similarly, teachers may facilitate students' ability to examine reasons behind the fair trade movement that began in mid-twentieth century, including foundational, social, and economic principles of the movement; factors influencing its success and limitations; and its impact on self-sufficiency and sustainability.

Geography

Geography is the study of people, places, and environments through two perspectives—spatial and environmental. Spatial perspective is concerned with geography's essential issue of "whereness"—Where is it? Why is it there? So what? Environmental perspective is framed by the understanding that people and environments in which they live are connected in complex relationships—people depend upon the environment for food, water, and all other resources; they modify environments with intended and unintended consequences; and they adapt to environmental conditions and changes in culturally varied ways. Teachers know both perspectives are equally important in geography, and both are used to interpret and explain phenomena on earth. The study of geography encompasses recognizing spatial patterns and processes on earth and comprehending that the earth is composed of complex webs of relationships within the environment and between environments and societies. Key concepts of the discipline of geography include space, place, scale, regionalization, interdependence, patterns, and processes.

Accomplished teachers know how geography—human geography, in particular—functions as a social science, allowing multiple applications and points of entry to the rest of the social studies. Geographic applications to history, economics, and civics and government abound. Teachers may use maps and narrative accounts to trace historic events in a spatial context, such as reading accounts of Paul Revere's ride and following his route on a map, noting the role physical and human geography played in the event. In a political context, students might explore the issue of gerrymandering, as it was coined in early nineteenth century Massachusetts, and political redistricting today as a way to manipulate electoral representation and either boost or limit the relative voice or efficacy of a particular demographic group. As an example of integration across social studies, the study of the geography of sports might incorporate concepts of economics, history, regionalism, and civics as students map locations of teams at different periods of time, discuss shifts in population and

economic resources that influenced these changes, and roles that regional identity and pride play in gaining or losing a sports team.

Accomplished teachers know the mechanisms of many processes, from the physical activities that shape the environment, to the processes of economic development, urbanization, migration, and cultural change. For example, students may be given opportunity through an analysis and interpretation of geographic information systems (GIS) data to examine underlying processes that shape patterns of where residents of certain socioeconomic backgrounds reside in a major metropolitan area and how those choices might influence the quality of life and organization of the city's resources.

Accomplished teachers demonstrate how people and societies in the past and present exist not only in time but also in place and space. For example, teachers may engage students in an analysis of site location factors that shape development of places, such as access to transportation routes and resources, and how these factors influence growth of cities in different regions and different periods of time. In addition, in a unit on water, teachers might bring to life the relationship between place, space, and time by developing a classroom simulation and debating the effects of population growth on the local watershed, including water quality; on animals in the ecosystem; and on the economy, health, and overall quality of life in the community. Issues of increased sanitation needs, eminent domain, paving of agricultural land, greater consumption of water, and simultaneous pollution are all considered as students craft mock county policy.

Accomplished teachers know that many important issues facing modern society are consequences of human modifications of the environment. It is also clear and reflected in their teaching that people are able to live in various environments in very different ways, and the nature of the environment plays a role in the development and conditions of human systems. Teachers know physical systems and environmental characteristics do not determine human activities. Environment, however, can place limitations on societies—limitations often mitigated in modern times by technologies such as central heating and cooling or improved transportation networks, which allow people to live in previously inaccessible regions. Teachers encourage students to identify positive and negative, intended and unintended consequences of human action and technologies on the environment at a range of scales, from the local community to global patterns of changes in physical systems such as climate, oceans, vegetation, and animals. Teachers facilitate students' awareness and knowledge about causes and implications of different kinds of pollutions, resource depletion, and land degradation and effects of agriculture and industry on the environment. They also assist students in recognizing sustainable ways to ameliorate such conditions through positive personal and collective action. Teachers provide opportunities for students to examine relationships among population growth, urbanization, economic development, and stress on the environment and guide students in making wise decisions that balance human needs with the resilience of the physical environment.

Accomplished teachers incorporate tools of geographic understanding, especially maps, and effectively teach students how such tools allow an individual to interpret and analyze the world and people’s complex relationship with it. For example, elementary teachers might introduce mapping to students by assigning them to create a working map of their classroom or their neighborhoods designed to solve a geographic problem or to illustrate a geographic relationship. Secondary teachers might utilize GIS mapping software or online resource portals to observe patterns in the amount of air pollutants that are emitted by countries relative to their population and level of industrialization. Teachers also guide students in viewing maps and geographic representations critically as social constructions. For example, students may evaluate a range of maps from local, national, and international sources and different periods of time to question the maps’ social and political purposes, perspectives, biases, and possible distortions.

Accomplished teachers know geography is for life—past, present, and future— and not simply an exercise for its own sake. As the world becomes more complex and interconnected—as a result of globalization, improvements in transportation and communication technologies, changes in physical systems, and increased cooperation—the need for geographic knowledge, skills, and perspectives increases among the world’s people. Teachers emphasize the value and power of geography in comprehending current events and planning for the future in geographically appropriate and sustainable ways.

Civics and Government

The study of civics and government deals with relationships among citizens and between citizens and states, as well as with the theoretical underpinnings, founding documents, political institutions, public policies, and methods of participation that influence individual and group behavior in the public sphere of society. The exploration of civics and government differs from other areas of the social studies by being less directly shaped by a single academic discipline. Although the content of civics and government is informed by political science, it is also related closely to the overall civic mission of schools—enabling students to participate fully in the life of a democratic society.

Accomplished teachers know that civics and government is a distinct content area with its own major concepts, frameworks, and ways of thinking. It includes basic concepts of comparative government and examines how differing systems of government can provide alternative ways of achieving valued social aims. Such concepts include centralization and decentralization of authority; levels of government; political party systems; and the processes of elections, voting, and citizen behavior. These core concepts, among others, describe the complexity of political ideals, institutions, and practices and their impact on individuals, groups, and society at large. This content area also provides opportunities for teachers to examine the translation of law into social policy, evaluate the desirability and effectiveness of different forms of governmental power, and explore the range of possible citizen action in response to authority.

Accomplished teachers help students understand principles of the U.S. constitutional framework, why each is important, and how they have developed historically. Such principles include, but are not limited to, the rule of law, popular sovereignty, separation of powers, due process, personal liberty, equal protection, and federalism. Teachers aptly navigate the complexity of such concepts and their translation into practice. When engaging students in discussing individual rights, for example, teachers might explore the complexity of shifting tensions between individual liberty and group security, between majority will and minority rights, and between those in positions of power and those who may be politically silenced. While examining issues of the rule of law, teachers might guide students through an understanding not only of strengths, but also of limitations, of the law and court system as a manner of challenging practices of Jim Crow segregation in the early twentieth century United States. Such an examination might also be coupled with a critical examination of the intensifying Civil Rights movement of the 1960s that created the necessary social pressure to turn legal precedent and de jure rights into de facto civil rights. Teachers recognize that grounding students in the context of democratic traditions is central to developing them as civic-minded, engaged, and active citizens.

Accomplished teachers recognize that the study of civics and government addresses civil rights, civil liberties, and civil responsibilities and, by extension, examines human rights and concepts of global citizenship. Teachers facilitate students' examination of the many ways in which U.S. and global citizenship and identity have been defined, restricted, and expanded over the years. Teachers also help students examine the relationship between the rights and responsibilities arising from national identity and those based on ethnic, religious, or cosmopolitan commitments.

In pursuit of these core concepts, frameworks, and ways of thinking, accomplished teachers provide opportunities for students to develop tools and dispositions for participating in a variety of local, national, and global political contexts, as well as for making sense of the ways individuals relate to the government and to one another. Teachers guide students to recognize the variety of ways in which people work together to bring about or resist political change, both now and in the past, ranging from the judicial process to political advocacy to organized social protest. Teachers help students focus on the process of decision making by guiding them in evaluating competing sources of information, in working with one another to reach consensus, and in presenting and defending arguments on issues of public concern.

In addition to teaching specialized units or courses on civics and government, accomplished teachers use their knowledge of content in this area when teaching history, economics, and geography. For example, teachers might compare the rise of nation states and empires in different time periods and areas of the world and look at particular circumstances that gave rise to their unique trajectories. Teachers might also guide students in analyzing how the ability to control or appeal to the population has contributed to the rise and fall of societies, such as the Mongol Empire, Mayan Empire, Ashanti Empire, Chinese Dynasties under the Mandate of Heaven, and the Soviet Union.

Accomplished teachers might turn a general introduction of various forms and types of government or political theories into an enriched discussion that examines ways in which ideals often translate messily into social reality or reflect the historical context in which they are launched. For example, teachers might engage students with an analysis of Marxist ideals of communism, while guiding students in the ways these ideals played out in China, Cambodia, or the former Soviet Union. Teachers might also examine constitutional documents of the United States and Cuba to illustrate historic tensions between these nations, paying particular attention to the language of the Cuban preamble that directly references this context.

Accomplished teachers also create opportunities for students to study social dynamics not only among individuals and groups in the wider society or in the past, but also in the context of their own lives. For example, in introducing concepts and tools for measuring demographic data, teachers might create an opportunity for students to use these tools in examining the demographic complexity of their own school or neighborhoods. Teachers might guide students in developing tools to gather information on the civic life of their own communities by looking, for example, at the demographic characteristics of the school population, neighborhood leadership, and the local board of education. Similarly, in an examination of historic social movements in various nations, teachers might introduce tools of power analysis or strategy mapping and then apply these same tools to a contemporary social issue of students' choice in a participatory action research project. (See Standard II—Developing Social Understanding, Engagement, and Civic Identity.)

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the Social Studies-History Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/EAYA-SSH.pdf>

<p>WORLD LANGUAGES (EAYA) <i>Early Adolescence through Young Adulthood</i></p>	<p>NOTES</p>
<p>STANDARD II: Knowledge of Language STANDARD III: Knowledge of Culture STANDARD IV: Knowledge of Language Acquisition</p>	
<p>OVERVIEW: Accomplished teachers of world languages function with a high degree of proficiency in the languages they teach. They understand how languages and cultures are intimately linked, understand the linguistic elements of the languages they teach, and draw on this knowledge to set attainable and worthwhile learning goals for their students. (Standard II)</p> <p>As an integral part of effective instruction in world languages, accomplished teachers know and understand the practices, products, and perspectives of target cultures and understand how languages and cultures are intimately linked. (Standard III)</p> <p>Accomplished teachers of world languages are familiar with how students acquire proficiency in languages, understand varied methodologies and approaches used in the teaching of languages, and draw upon this knowledge to design instructional strategies appropriate to their instructional goals. (Standard IV)</p>	
<p>Standard II: Knowledge of Language Language Proficiency</p> <p>Accomplished teachers of world languages exemplify a high proficiency in the languages they teach. They actively use the languages they teach in both formal and informal exchanges on a variety of discrete topics relating to work, school, home, and leisure activities, as well as to matters of personal and public interest. They narrate and describe events in present, past, and future time frames with only occasional errors in temporal flow. They appropriately handle communicative tasks that present complications or an unexpected turn of events. They are understood by native speakers unaccustomed to dealing with non-natives, although teachers may achieve this level of communication through repetition and restatement.</p> <p>When listening and reading in interpretive settings, accomplished teachers infer the meaning of unfamiliar words and phrases in new contexts, infer and interpret the author’s or speaker’s intent, and offer personal interpretations of the message. When speaking or writing in the presentational mode, accomplished teachers deliver presentations on familiar literary and cultural topics and those of personal interest.</p>	

They speak in connected discourse using a variety of time frames and vocabulary appropriate to the topic. When necessary, they use extra linguistic supports such as rephrasing or gestures to facilitate audience comprehension. Teachers write about familiar topics by means of narratives, descriptions, and summaries of a factual nature in major time frames with adequate control of temporal flow. Their writing demonstrates control of simple target language sentence structures and partial control of more complex syntactic structures. Their writing is understood by readers accustomed to the writing of second-language learners, although total and accurate comprehension may occur after interpretation and effort on the part of readers.

In the case of languages using ideographs, such as Japanese and Chinese, or non-Roman alphabets, such as Arabic, Hindi, or Russian, teachers might use keyboards with input method editors that recognize these non-Roman orthographies. In such instances, teachers have a thorough knowledge of the phonological systems of the languages and the written representations of sounds, and they can accurately choose appropriate keyboard input to form words and sentences.

Accomplished teachers of classical languages read with comprehension and interpret original works in these languages, whether in formal prose, epic or lyric poetry, drama, inscriptions, or even Pompeian graffiti. They select and adapt texts to meet the needs of their students. Although teaching face-to-face communication is not the primary goal of accomplished teachers of classical languages, they read prose or poetry aloud fluently with appropriate pronunciation, voice inflection, phrase groupings, and attention to metrical structure. They use the languages in the classroom, asking questions orally, paraphrasing in the target language, and giving directions to support the reading of texts. As necessary to supplement classroom texts, teachers of classical languages can write in the target languages using forms, phrases, clauses, and styles appropriate to the subject matter.

Accomplished teachers of Native American languages understand their important role in helping to preserve the true essence of Native American cultures. Teachers know that Native American languages express the richness of culture in ways that cannot be translated into other languages. For example, the Ojibwe language has several expressions for “snow” that are more descriptive than the English translation because Ojibwe has specific words that indicate “smooth snow” and “crunchy snow.” Although some Native American cultures have an alphabetic system to organize their language, as is the case with the Cherokee Nation, very few Native American languages are written. Teachers recognize that Native American languages embody the oral expression of traditions, which are brought to bear only through explicit preservation and teaching of the languages. Accomplished teachers of Native American languages ensure that youngsters of native cultures have authentic and numerous opportunities to communicate with their elders, because this communication provides the source of many established customs and beliefs.

As life-long learners who recognize that language acquisition is a continuing process, accomplished teachers demonstrate the language competencies they wish their students to emulate. To this end, teachers dedicate themselves to advancing their

skills in the languages they teach. They participate in immersion activities and travel or study abroad to maintain or improve language proficiencies and cultural knowledge, read widely in target languages, and engage in conversations with speakers of the languages they teach. Teachers use language in culturally appropriate ways in varied situations and with varied audiences; at different levels of formality; when creating, reacting to and interacting with groups and individuals; and use the language in oral, visual, and printed texts in all three modes of communication—interpersonal, interpretive, and presentational.

Knowledge of How Language Works

Accomplished teachers of world languages have a strong foundation in linguistics. They understand the sound systems of languages, the rules by which words are formed, and the ways that phrases, clauses, and sentences are structured. Additionally, they are aware of the cultural values associated with words and expressions and are able to choose among them in culturally appropriate ways. They are familiar with rhetorical and stylistic devices, figures of speech, and sociolinguistic and pragmatic competencies appropriate for a range of communicative tasks.

Accomplished teachers of world languages know how languages vary geographically, socially, and chronologically; maintain their knowledge of the changing linguistic and cultural norms of the languages they teach; and incorporate this knowledge into their instructional decisions. Their teaching strategies and selections of course materials, content, and tasks reflect an awareness of current trends in the development of the target languages. For example, teachers are knowledgeable about words that enter the standard language to designate new technologies in growing areas of common concern such as the environment and product use worldwide. Teachers can differentiate, for instance, classical from medieval Latin; help students recognize and understand the differences between standard German and other regional dialects of German; or explain the use of the honorific system in Japanese to indicate the social status of speakers. Teachers of Russian are knowledgeable of the many countries where Russian is spoken as a native or second language. In Spanish classes, accomplished teachers can point out differences between the variations of Spanish used in Equatorial Guinea, for example, and that used in peninsular Spain, citing the differences in pronunciation, vocabulary, and structures of the language. Teachers value the regional variants and local dialects of the languages they teach and help their students understand the historical backgrounds that have led to the emergence of those variants and the misconceptions that these differences sometimes engender. In addition, teachers realize the importance of comparing target language studies with the language system of English.

Accomplished teachers exhibit a deep understanding of the communicative functions of language and of the ways language varies depending on the context and use of the communication. They recognize the demands put on learners by different types of interactions and contacts with the target language. For example, teachers know that face-to-face communication among speakers—the interpersonal mode of communication—requires learners to engage in conversations, provide and obtain

information, express feelings and emotions, and exchange opinions. Teachers also know that the comprehension of both oral and written texts—the interpretive mode of communication—requires that students develop the ability to understand and interpret a variety of print and nonprint materials in culturally appropriate ways. Finally, they understand that presenting information to audiences in spoken and written formats—the presentational mode—requires learners to acquire authentic patterns and appropriate styles of language for use in communicating with listeners or readers.

Standard III: Knowledge of Culture

Accomplished teachers of world languages understand culture as the relationships among a group's products, such as books, tools, foods, laws, and music; practices, such as social interactions, use of personal space, and rites of passage; and perspectives, such as meanings, attitudes, values, and ideas. Teachers are not only acquainted with products and practices of target cultures, but also understand, reflect on, and analyze the perspectives of the cultures. Teachers recognize that certain universal traits characterize all cultures and transcend cultural boundaries; they also demonstrate their awareness that cultures generally embody great diversity. For example, many variations exist between and within the Spanish-speaking cultures in the Caribbean and Spain. Similarly, French-speaking cultures in Africa, North America, the South Pacific, and Europe embody wide diversity, and Latin speakers in Rome during the first century C.E. led lives very different from those of Latin speakers in the western provinces of the Roman Empire and those in North Africa. Teachers respect the dignity of disparate cultural groups within a commonly shared language and understand their impact in the pluralistic society of the United States.

Accomplished teachers draw from a repertoire of cultural knowledge and experience. They are knowledgeable about the daily life and heritage of target-language cultures and are acquainted with such aspects of culture as current events, traditions, history, literature, performing and visual arts, intellectual movements, beliefs and values, and geography. They know how target cultures compare with cultures of the United States and with the cultures of their diverse classroom populations. Teachers demonstrate appreciation of other cultures and strive to help students develop sensitivity toward other cultures. They broaden students' knowledge of culture by keeping abreast of contemporary cultural developments through the media; by participating in courses, conferences, lectures, and workshops; and by visiting museums, attending concerts and performances, and reading literature. Teachers are knowledgeable about the cultural implications of unique linguistic practices such as writing systems, colloquialisms, idioms, and proverbs. A teacher of Chinese, for example, might teach the simplified and traditional forms of Chinese character writing to demonstrate to students the differences in writing systems used in China and Taiwan. Teachers know that such differences in geographic variations may have historical as well as political significance. Students of accomplished teachers come to appreciate the concept of culture as neither monolithic nor static and realize that developing insights into cultural phenomena is a life-long process.

Accomplished teachers provide students opportunities to understand the richness of the cultures of the languages studied in the context of meaningful language experiences. Teachers acquaint students with key cultural traits and concepts and help them synthesize and interpret this information in sensitive and meaningful ways. With the goal of developing a process of inquiry in students regarding the dynamic dimensions of culture, teachers systematically and continuously integrate cultural perspectives with their instruction. Students learn about important historical and contemporary issues, significant works of literature and art, cultural attitudes and priorities, everyday life, social institutions and, when relevant, the roles such factors play in today's global society. A teacher of a middle school Portuguese class, for instance, might have students access opinion columns from online Brazilian newspapers discussing the deforestation of the Amazon rainforest and then ask students to create posters or public service announcements arguing their viewpoints regarding the issue. Similarly, an online map depicting the route of the Trans-Siberian Railway can inform a discussion by middle school students on the ethnic diversity of Eurasia and the long-standing role of Russian for communication within its vast expanses. Such accomplished instructional strategies taught in the target language, enrich language instruction, promote students' understanding of how culture and language interact, and become a catalyst for cross-cultural and intra-cultural understanding.

Accomplished teachers of world languages enable students to learn about contemporary societies and the histories of these societies and to interact with target cultures through a variety of means. To create a lesson in which students explore cultural similarities and differences, for example, a French teacher might ask students to research information on masks from tribes in Senegal, from Inuit Amerindians in Quebec, and from Mardi Gras celebrations in Louisiana. A teacher of German might have students read a poem by Goethe in addition to a contemporary work by an Afro-German author. Teachers know the importance of new technologies to support and extend their students' learning and use these technologies to provide a range of cultural experiences. For example, they might access articles from foreign publications as a basis for units of study. Accomplished teachers strengthen their instruction with a mosaic of authentic materials and resources dealing with target cultures that includes literary as well as nonliterary sources, such as artifacts and guest speakers. Whenever possible, teachers use the target language to illuminate classroom experiences with the products, practices, and perspectives of target cultures, and they encourage students to explore target cultures within their own communities. For example, teachers might encourage students to attend local ethnic festivals or suggest that students visit ethnic markets or restaurants in the area. Teachers carefully match these resources to the ages and developmental levels of students.

When possible, accomplished teachers take advantage of opportunities to arrange travel and study abroad for themselves and, possibly, for their students in regions where the target language is spoken or, in the case of classical languages, in areas of the world where those languages once flourished. As necessary, teachers seek funding and other means of support from such sources as scholarships, professional organizations, embassies, or grant foundations and fellowships to create

opportunities for cultural investigations that might include independent research, use of the Internet, formal instruction, visits with host families, or the hosting of exchange students or teachers. In such ways, accomplished teachers enable themselves and their students to develop firsthand experience with target cultures and learn to communicate their knowledge of culture as insiders. Cultural perspectives gained from experiences allow teachers and students to compare and contrast home cultures with target cultures and to expand their awareness of other cultures while gaining insights into their own.

Standard IV: Knowledge of Language Acquisition

Accomplished teachers of world languages apply their knowledge of the processes by which new languages are acquired to construct classroom environments in which purposeful language learning occurs. To develop instructional frameworks for effective language learning, teachers apply methodologies and strategies that reflect theories of language acquisition. Their knowledge of language acquisition takes into account the interrelationships of language and culture with language functions in a variety of settings. The study of language acquisition is fluid and constantly evolving, so accomplished teachers regularly seek information on current theories and research— and their applications—through familiarity with professional literature and through participation in professional organizations, professional development activities, and advanced course work. Continually reflecting on their classroom practice, teachers make adjustments as they evaluate theories and research in language acquisition within the context of their own instructional programs.

Accomplished teachers understand research on language acquisition; they know that language learning takes time; and they are mindful that learners acquire language in predictable developmental patterns and sequences of acquisitions at different rates and in different ways. Teachers design instruction that reflects their understanding of the complexity of the language-learning continuum. Teachers know, for example, that students undergo a “silent period” when learning a new language where they absorb more information than they are capable of reproducing. Teachers take into account research suggesting that students often rely on their knowledge of their native language when communicating in the target language, and teachers understand patterns of errors and avoidances students sometimes produce. Teachers are also carefully attuned to positive evidence that reflects the students’ emerging capacities to convey new meanings in the target language.

Teachers understand that characteristics such as age, cognitive development, learning profiles, attitudes toward the target language, motivation, affect, cultural background, learning strategies, and other factors influence the learning process in complex ways. Teachers realize that some learners are highly visual, whereas others rely on their ability to imitate and reproduce language they hear. Teachers also realize that some students learn globally, while others are analytical learners. Teachers might work with students who are beginning language learners and others who are advanced speakers or heritage speakers of the language but lack proficiency in reading or writing. Accomplished teachers design appropriate instructional strategies for all language

learners. Teachers understand that their students must acquire a wide range of competencies that includes various components of linguistic systems—the use of grammatical, lexical, phonological, orthographic, semantic, pragmatic, and discourse features needed to communicate in a variety of settings. Teachers use their knowledge of language acquisition and learner characteristics to create supportive learning environments that facilitate each student’s language learning.

Accomplished teachers select approaches consistent with what is known about how learners acquire language in instructional settings and make principled decisions for instruction. They are familiar with a variety of methodologies and strategies—including the use of technology—effective in the teaching and learning of languages through standards-based, content-based, and proficiency-based instruction. A teacher of Japanese, for example, might have students engage in interpretive listening—a standards-based activity—by observing their teacher ask for a glass of water using requests ranging from casual to polite. Students would then verify their content knowledge of the cultural concept of Japanese honorifics, demonstrating their proficiency and proving their understanding by holding up pictures that match the teacher’s spoken language choices.

Because teachers understand the complex relationship between learner performance and language proficiency, they recognize the importance of cultural knowledge in enabling students to communicate appropriately. A teacher of Russian, for instance, might demonstrate the range of possibilities that exist in the language for apologizing to classmates in different situations. A teacher of Arabic might ask students to enact a restaurant skit in which students confirm their knowledge of cultural practices regarding dining out, such as customs and rituals relative to menus, service, and payment. Teachers design instruction that acquaints students with underlying cultural perspectives by providing opportunities for them to apply their language abilities in real-world scenarios.

Accomplished teachers understand that language acquisition is a constructive and interactive process. With the important goal in mind of enabling students gradually to take control of their own language learning, teachers create situations in which students learn to negotiate meaning with the teacher, with one another, and with texts. Teachers skillfully encourage in students a willingness to use language, even though errors occur. Teachers facilitate students’ production of language by discriminating between salient errors that obstruct communication and those that are systematic and part of the learning process. Teachers understand how and why errors are made and modify instruction to address concepts students have yet to master. Teachers also foster students’ abilities to monitor and correct their use of language.

Many language structures taught early in programs require extensive exposure in the language before students acquire them. Teachers therefore provide input-rich environments, meaningful and contextualized lessons, opportunities for collaborative work, and frequent opportunities for students to participate in culturally appropriate ways. For example, high school students might demonstrate their language expertise by reading Spanish-language articles regarding environmental issues in Central and

South America, and then, using vocabulary acquired through their reading, participate in small-group exchanges with classmates—in Spanish—in which they discuss similarities and differences among their findings. To confirm their ability to use the target language, students might prepare a brochure, make a presentation using current presentational technology, or write and illustrate a children’s book portraying the importance of issues they investigate. In making instructional decisions in the context of their knowledge of theories of language acquisition, teachers always take into consideration the needs and experiences of their students, local and state guidelines, state and national standards, and the benefits of articulation across levels of instruction.

The themes highlighted in this document are embedded throughout the larger set of standards for each certificate area. To view the World Languages Standards in their entirety, including the Five Core Propositions and the Architecture of Accomplished Teaching, visit <http://nbpts.org/wp-content/uploads/2017/07/ECYA-WL.pdf>