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STRATEGIES: FRAMEWORK FOR TEACHING

SECOND EDITION

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PGES STRATEGIES KIT

DOMAIN I
**PLANNING &
PREPARATION**



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STRATEGIES: FRAMEWORK FOR TEACHING

Strategies in this resource are organized in the same order as Kentucky's Framework for Teaching materials, by component and element under each domain. In these materials, each of the four Framework for Teaching domains are available as separate PDF files.

DOMAIN I > PLANNING & PREPARATION

IA. DEMONSTRATING KNOWLEDGE OF CONTENT & PEDAGOGY

- > Knowledge of Content and the Structure of the Discipline
- > Knowledge of Prerequisite Relationships
- > Knowledge of Content-Related Pedagogy

IB. DEMONSTRATING KNOWLEDGE OF STUDENTS

- > Knowledge of Child and Adolescent Development
- > Knowledge of the Learning Process
- > Knowledge of Students' Skills, Knowledge, and Language Proficiency
- > Knowledge of Students' Interests and Cultural Heritage
- > Knowledge of Students' Special Needs

IC. SELECTING INSTRUCTIONAL OUTCOMES

- > Value, Sequence, and Alignment
- > Clarity
- > Balance
- > Suitability for Diverse Learners

ID. DEMONSTRATING KNOWLEDGE OF RESOURCES

- > Resources for Classroom Use
- > Resources to Extend Content Knowledge and Pedagogy
- > Resources for Students

IE. DESIGNING COHERENT INSTRUCTION

- > Learning Activities
- > Instructional Materials and Resources
- > Instructional Groups

IF. DESIGNING STUDENT ASSESSMENT

- > Congruence with Instructional Outcomes
- > Criteria and Standards
- > Design of Formative Assessment
- > Use for Planning

OTHER DOMAINS:

DOMAIN 2 > CLASSROOM ENVIRONMENT

DOMAIN 3 > INSTRUCTION

DOMAIN 4 > PROFESSIONAL RESPONSIBILITIES

PLANNING & PREPARATION > DOMAIN 1

> 1A. KNOWLEDGE OF CONTENT & PEDAGOGY

> KNOWLEDGE OF CONTENT AND THE STRUCTURE OF THE DISCIPLINE

- **STANDARDS DOCUMENTS** — The new standards documents offer a wealth of information that go deeper than the standards themselves. Introductions, descriptions, examples, connections, etc., can strengthen your understanding in a given subject and improve your ability to help students grasp the most important concepts. Routinely study and revisit the full standards documents, and read the supporting information.
- **CURRENT CONTENT KNOWLEDGE AND PEDAGOGY** — Use resources from state and national content organizations, stakeholder groups like KASC and KEA, and your local cooperatives to find resources to support your teaching. (See a list of some options at the end of this component.)
- **REAL-LIFE TOOLS, MODELS, AND ASSESSMENTS** — Use tools from the field you are studying whenever possible. Adapt resources as needed to the age or expertise of your students. For example, determine with science colleagues if there is a standard format in a science discipline for lab reports. Adapt your findings to be age appropriate.
- **PROFESSIONAL READING** — Learning is a lifelong process for teachers. Stay abreast of current research and practices by reading journals and professional books. Find the latest articles and books from professional organizations and websites. Talk to your principal or curriculum coaches for suggestions.
- **ONLINE PROFESSIONAL DEVELOPMENT** — Use the Internet to find webinars, podcasts, content academies, and videos to help you develop content knowledge and instructional proficiency. The Teaching Channel (www.teachingchannel.org) has short videos to help teachers improve instructional practices and knowledge. Other sites can help you brush up rusty skills with content. One exceptional site is www.khanacademy.org, which is a free resource. This can also be used with students. Many colleges and universities also offer free online courses.
- **CONGRUENT LEARNING ACTIVITIES** — Ensure that learning experiences and formative assessments exactly match the standard (or the Learning Target leading to the standard) in level of thinking and type of learning required.
- **LEARNING TARGETS** — In your daily plans, include learning targets to help students understand the purpose of the lesson. The targets help students monitor their mastery and assess their progress.
- **MISCONCEPTIONS** — When planning, consider directions and steps of an assignment from a student perspective to anticipate what might go wrong before students begin. During the lesson, pose a question that will determine whether students have misconceptions about the content. Depending on student responses, you can proceed with lesson/assignment or clear up misconceptions.

> KNOWLEDGE OF PREREQUISITE RELATIONSHIPS

- **OUTLINE OF THE BASICS** — As part of your planning, keep an outline of the key concepts, essential questions, and vocabulary for each instructional unit. Add to your outline prerequisite knowledge, common misconceptions, and areas of difficulty for students that you have identified in previous teaching and learning experiences.
- **BIG IDEAS** — Understand and share with students the big ideas of the content you are teaching: enduring skills, process, and/or concepts; central themes; essential questions, etc. The big ideas can help students see the purpose of the work they are doing that will eventually move them toward learning goals.
- **LITERACY STANDARDS IN EVERY DISCIPLINE** — The kind of reading, writing, speaking, listening, and thinking skills required in each discipline contain similarities and differences. Use the resources below to ensure literacy is part of every discipline. Guide students in processing and applying content knowledge in meaningful and relevant ways.
 - > The College and Career Readiness Anchor Standards are applicable across disciplines.
 - > To get more specialized, the Common Core/Kentucky Academic Standards include literacy in History/Social Studies, Science, and Technical Subjects for grades 6-12.
 - > Following the adoption of the Common Core, a K-16 team in Wisconsin worked on literacy standards for all disciplines and in every grade, K-12. See this info at standards.dpi.wi.gov/stn_disciplinaryliteracy

■ **SEVEN SURVIVAL SKILLS FOR CAREERS, COLLEGE, AND CITIZENSHIP** — Tony Wagner, expert in residence at Harvard University’s Innovation Lab, defines seven “survival skills” critical to what he calls the new world of work. These skills cut across disciplines. As often as possible, practice these skills.

- > Critical thinking and problem solving involve identifying problems, asking good questions, and applying abstract knowledge.
- > Collaboration across networks and leading by influence involve developing leadership skills that can improve the quality of teamwork.
- > Agility and adaptability include the ability to change and be flexible while achieving desired results.
- > Initiative and entrepreneurialism call for spotting new opportunities and seeking ways to make improvements.
- > Effective oral and written communication builds an ability to be precise and clear in describing issues and results to others.
- > Accessing and analyzing information entails knowing how to find and evaluate pertinent data or information.
- > Curiosity and imagination emphasize the importance of thinking about issues with an eye toward new questions or applications.

■ **CONNECTIONS AMONG CONTENT AREAS** — Include in your plans the ways that you can reinforce common expectations in the core areas. See some of the big ideas from those subjects below.

There are similar skills in the national standards for other content areas, such as, “access valid information, products, and services to enhance health” (health education); “analyze, evaluate, describe, and understand music and performances” (music); and “evaluate and/or infer how an artwork conveys the artistic intent and meaning to others” (visual arts).

READING

Kentucky Core Academic Standards Anchor Standards

- > Make logical inferences from complex text
- > Summarize key details and ideas of complex text
- > Analyze individuals, events, and ideas throughout complex text
- > Interpret words and phrases to comprehend text independently
- > Evaluate content presented in diverse media and formats to comprehend complex text
- > Delineate and evaluate the argument and specific claims in complex text

WRITING

Kentucky Core Academic Standards Anchor Standards

- > Build knowledge on a subject through research
- > Write arguments to support claims
- > Write informative/explanatory texts to convey ideas and information
- > Write narratives to develop real or imagined experiences
- > Use technology to interact and collaborate with others
- > Assess the credibility and accuracy of sources

MATHEMATICAL PRACTICES

Kentucky Core Academic Standards

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

SCIENCE & ENGINEERING PRACTICES

Next Generation Science Standards

- > Asking questions and defining problems
- > Developing and using models
- > Planning and carrying out investigations
- > Analyzing and interpreting data
- > Using mathematics and computational thinking
- > Constructing explanations and designing solutions
- > Engaging in argument from evidence
- > Obtaining, evaluating, and communicating information

SOCIAL STUDIES DIMENSIONS

C3 Framework

- > Developing questions and planning inquiries
- > Evaluating sources and using evidence
- > Applying disciplinary concepts and tools
- > Communicating conclusions and taking informed action

■ **UNDERSTANDING PEDAGOGY** — There are many definitions of pedagogy. Perhaps the simplest is “the science of teaching” (Oxford English Dictionary). Pedagogy encompasses:

- > What is taught/learned – the content
- > How it is taught or learned – approaches to teaching and learning
- > Why it is taught or learned – the underpinning values, philosophy, or rationale

Teachers need to identify approaches best suited to their discipline and help students reach mastery of content.

Sources: www.educationcounts.govt.nz/publications/schooling/student-engagement-in-the-middle-years-of-schooling-years-7-10-a-literature-review/part-b-the-pedagogical-approaches-that-promote-and-support-student-engagement-for-improved

Also: tlp.excellencegateway.org.uk/tlp/pedagogy/assets/documents/qs_equality_diversity.pdf

■ **COOPERATIVE LEARNING** — Cooperative learning helps learners work as part of a team, while at the same time ensuring that all contributions are valued. This approach can help break down barriers between learners by introducing the concept of individual and group accountability.

■ **EXPERIENTIAL LEARNING** — Students make meaning by experiencing the process or feel of real-life situations. Role play, videos, and case studies are ways that students can experience and relate to content they are studying.

■ **DIFFERENTIATION** — Teachers provide students with varied avenues to learning (often in the same classroom) in terms of acquiring content; processing, constructing, or making sense of ideas; and developing teaching materials and assessment measures so that all students within a classroom can learn effectively, regardless of differences in ability. Students vary in culture, socioeconomic status, language, gender, motivation, ability/disability, personal interests, and more. Teachers need to be aware of these differences in planning curriculum. By considering varied learning needs, teachers can develop personalized instruction to ensure all children can learn effectively.

■ **RELATING THEORY AND PRACTICE** — Learners need to reflect on their experiences and connections to real life. Projects and simulations can help students explore issues. Field trips or guest speakers can help students place learning in a real-life context.

■ **ASSESSMENT** — Using a variety of formative and summative assessment methods and providing effective feedback will keep students involved in learning. Peer reviews, conferences, checklists, self-assessment, technology-based assessment, performance assessment, etc., provide feedback through the learning process.

■ **TECHNOLOGY** — Effective use of e-learning and technology can broaden access to learning. In the area of multimedia, digital cameras, mp3 recorders, and smart boards provide alternatives for sharing and presenting information in an accessible way. Cameras and video recorders can capture sound bites from learners, documenting their views. The Internet is a valuable research tool for accessing information or learning from others. The Internet can open learning to all with careful planning to evaluate sites used. Use the internet to access videos, case studies, and articles that expand teaching and learning.

■ **LEARNING CONVERSATIONS** — Teaching students to discuss concepts and explore ideas deeply is essential for understanding content at a high level. Effective questioning by teachers gets students to think. Learning conversations also prepare students for situations that require dialogue, communication, and problem solving.

■ **MULTI-SENSORY LEARNING** — Planning and delivering learning that activate students’ senses, such as seeing, listening, and touching, will tap a variety of learning styles and enrich the learning experience. Regular change in the types of learning activities also ensure higher degrees of motivation.

■ **MODELING** — Effective modeling requires the expert to demonstrate a skill or process and make the thinking behind the practice explicit. Students gain from seeing quality role models.

■ **HANDS-ON EXPERIENCES** — Learning by doing is effective for most learners. Students can better understand and relate to concepts from hands-on experiences that break down steps toward a desired result.

■ **THINK AND TALK ALOUD USING THE LANGUAGE OF YOUR DISCIPLINE** — If you are teaching science, reason like a scientist to show how scientists tackle a challenge or question. Modeling the thinking process of a given discipline highlights information and skills that can be used to approach and solve a problem. Thinking aloud is an excellent memory enhancer, especially when students discuss open-ended questions, such as “What might have happened if...?” or “What would you have done instead?”

■ WEB RESOURCES

www.learner.org

- > Video content for teachers and students
- > Ready-to-go lesson plans including video
- > Professional reading — link to blogs

www.teachersindex.com

- > Ready-to-use templates for creating custom worksheets
- > Professional reading — links to blogs, articles on current topics in education, professional book recommendations

www.ascd.org

- > Video content for teachers
- > Professional reading

www.teachingchannel.org

- > Videos and articles on current topics/teaching practices; many sample videos from classrooms

danielsonframeworkforteaching.weebly.com

- > Video content for teachers
- > Texts available for teachers
- > Materials ready for student use
- > Ready-to-use templates for all domains of the Danielson framework
- > Professional reading

www.readwritethink.org

- > Video content for teachers
- > Texts available
- > Materials ready for student use — interactive tools, some in game format, mobile apps
- > Ready-to-go lesson plans—printable mini lessons, units and recurring lessons
- > Professional reading – guides, links to NCTE and IRA articles, recommended books

> IB. KNOWLEDGE OF STUDENTS

> KNOWLEDGE OF CHILD AND ADOLESCENT DEVELOPMENT

■ **LEARNING SESSIONS MATCH STUDENT ATTENTION** — On average, students pay attention to direct instruction for one-minute times their age, with a cap of 15-20 minutes for everyone. This varies based on the difficulty of the topic. Be aware of this, and allow time to apply new information, use it in a hands-on way, discuss it, etc.

■ **SELF-MONITORING** — Build in time to show students where their learning stands and help them to track progress toward their goals. Use achievement targets, graphs, and specific feedback.

■ **REFLECTION** — In daily learning, encourage student reflection on prior knowledge and its connection to new information.

■ **10 EFFECTIVE DEVELOPMENTALLY APPROPRIATE TEACHING STRATEGIES** (taken from the National Association for the Education of Young Children) Source: www.naeyc.org/dap/10-effective-dap-teaching-strategies

- > An effective teacher chooses a strategy to fit a particular situation. It's important to consider what children already know and can do and the learning goals for the specific situation. By remaining flexible and observant, we can determine which strategy may be most effective. Often, if one strategy doesn't work, another will.
- > Acknowledge what children do or say. Let children know that we have noticed by giving positive attention, sometimes through comments, sometimes through just sitting nearby and observing. ("Thanks for your help, Kavi." "You found another way to show 5.")
- > Encourage persistence and effort rather than just praising and evaluating what the child has done. ("You're thinking of lots of words to describe the dog in the story. Let's keep going!")
- > Give specific feedback rather than general comments. ("The beanbag didn't get all the way to the hoop, James, so you might try throwing it harder.")
- > Model attitudes, ways of approaching problems, and behavior toward others, showing children rather than just telling them ("Hmm, that didn't work, and I need to think about why." "I'm sorry, Ben, I missed part of what you said. Please tell me again.")
- > Demonstrate the correct way to do something. This usually involves a procedure that needs to be performed in a certain way (such as using a wire whisk or writing the letter P).
- > Create or add challenge so that a task goes a bit beyond what the children can already do. For example, lay out a collection of chips, count them together and ask a small group of children to tell you how many are left, after they see you removing some of the chips. The children count the remaining chips to help find the answer. To add a

challenge, you could hide the chips after you remove some, and the children will have to use a strategy other than counting the remaining chips to come up with the answer. To reduce challenge, you could simplify the task by guiding the children to touch each chip once as they count the remaining chips.

> Ask questions that provoke children's thinking. ("If you couldn't talk to your partner, how else could you let him know what to do?")

> Give assistance (a cue or hint) to help children work on the edge of their current competence. ("Can you think of a word that rhymes with your name, Matt? How about bat . . . Matt/bat? What else rhymes with Matt and bat?")

> Provide information, directly giving children facts, verbal labels, and other information. ("This one that looks like a big mouse with a short tail is called a vole.")

> Give directions for children's action or behavior. ("Touch each block only once as you count them." "You want to move that icon over here? Okay, click on it and hold down, then drag it to wherever you want.")

> KNOWLEDGE OF THE LEARNING PROCESS

■ **TEACHING THE WAY THE BRAIN LEARNS BEST** — Incorporate these research-based learning principles in your lesson plan. (*There are specific strategies for teaching in the Domain 3 strategies.*)

> **FEEDBACK** is vital for developing a stronger brain and a more successful student because it gives students an opportunity to learn from mistakes. Feedback needs to be timely and specific and include ways to improve. Students need to use the feedback to improve their work, then get more coaching and practice.

> Curriculum and instruction must have **MEANING** for each student. The brain isn't good at learning isolated facts.

The best learning comes from seeing patterns, associations, and connections between new information and previous knowledge. Students want to learn when the content is relevant to their lives, is something they care about (emotions matter!), or is information they can fit into a familiar pattern or a context.

> **MOVEMENT** is vital for learning. Students learn by being physically engaged. Learning that involves the body is easier to recall. Learning through movement also gives people another memory aid. There are different pathways where the brain "stores" knowledge, and one is the procedural pathway. This kind of knowledge is stored in the body and is sometimes called muscle memory. Driving a car is one example of a muscle memory activity, but storing academic information that way is very effective and easy to access. Motivation and energy levels are kept at high levels when students get to move. Attitude is an important factor for motivation to learn — movement helps students feel more positive. Brains require a lot of oxygen, and movement helps bring in a fresh oxygen supply to the brain.

> The **CHALLENGE** of thinking at higher levels and solving problems leads to a more developed brain. Students think as they learn, not after they learn. Analysis, synthesis, and evaluation are not rewards for lower-level accomplishment but the actual tools by which we acquire learning. Using Bloom's Taxonomy/DOK in assignments and questioning will set up your lessons to take students to higher levels. (The Hess Matrix combines Bloom's and DOK.)

■ **SCAFFOLDING LEARNING** — Teachers apply scaffolding strategies during lessons and differentiate assignments that incorporate student interests, background, and ability. Use the following strategies in your planning. (See Component 3A for an explanation of each strategy.)

> Model needed steps and show models of expected product

> Pre-teach key vocabulary

> Use graphic organizers to support learning

> Provide pictures, charts, videos

> Use memory aides

> Build in time for students to process and reflect

■ **LEARNING CONTRACTS** — Develop an agreement with the student regarding a task or project. Contracts may allow choice in part of what is to be learned, working conditions, and how information will be applied or expressed.

■ **PLAN WITH STUDENTS** — Let students help plan a lesson or unit. Once they know the purpose for the learning, they can help decide ways to achieve the purpose. Involvement will allow students to identify interests and relevance.

■ **MAKE HOMEWORK MEANINGFUL** — Homework should be purposeful, efficient, personalized, doable, and inviting.

Students must be able to freely communicate with teachers when they struggle with homework, knowing they can admit that they don't understand a task. Five qualities of productive homework: the task has a clear academic purpose; the task efficiently demonstrates student learning; the task promotes ownership by offering choices and being personally relevant; the task instills a sense of competence — the student can successfully complete it without help; the task is aesthetically pleasing — it is enjoyable and interesting. (Vatterott, 2009)

> KNOWLEDGE OF STUDENTS' SKILLS;
KNOWLEDGE AND LANGUAGE PROFICIENCY

■ **PRE-ASSESSMENTS** — Gather valuable information about a student's prior knowledge and areas of strengths and weakness. Instruction can be tailored to meet students' learning needs and better monitor what students learn.

■ **LINKS TO PRIOR LEARNING** — When introducing a lesson, have students link the concept/content to prior learning with some variation of the KWL charts. (See specific directions for a variety of KWL tools in 3E.) Use questioning to guide students to make connections to other subjects they have studied.

■ **LEARNING PROFILES** — Survey your students on their strength areas in the multiple intelligences; learning style (visual, auditory, kinesthetic); and interests. Then work with students to create their own learning profile. You and the student should use that information to improve teaching and learning.

■ **BEST PRACTICES FOR ESL STUDENT ACHIEVEMENT** — For students learning English as a second language (ELL, ESL, LEP), the following strategies positively influence achievement:

- > Connect lessons to student's culture
- > Provide meaningful vocabulary instruction
- > Use small group interventions
- > Have peers work with students in directed learning activities
- > Involve parents (be sure you know what language is being spoken in the home)

> KNOWLEDGE OF STUDENTS' INTERESTS;
AND CULTURAL HERITAGE

■ **KNOW YOUR STUDENTS** —When you plan, use your knowledge of individual students. Build that knowledge by having students complete surveys describing themselves as people. Some of the most important questions you can ask include the following: What's your favorite way to spend your time outside of class? What hobbies do you have? What is something about which you know a lot? Use that information to make connections during student learning.

■ **BACKGROUND KNOWLEDGE** —When introducing a lesson, have students share their own knowledge, thoughts, and ideas about the content or concept through some variation of the KWL charts. (See specific directions for a variety of those tools in 3E.) Using sticky notes for students to share what they know and would like to learn adds variety, but some anonymous responses might lead to better discussion. If students are from very diverse backgrounds, some students might feel like their experience isn't as good as someone else's. Celebrate the way that diverse knowledge and experience expands everyone's learning.

■ **GETTING-TO-KNOW-YOU TECHNOLOGY** — Most teachers spend some time getting to know students during the first days of school. Using current apps and websites will engage students immediately. Teachers can create surveys for students to fill out in GoogleDocs or Survey Monkey. Create a QR Code scavenger hunt to get to know the room, school or each other. Have students create a Pinterest board with 10 pins that reflect who they are. For more icebreakers and ideas with direct links, visit teacherswithapps.com/21st-century-icebreakers-10-ways-to-get-to-know-your-students-with-technology/

> KNOWLEDGE OF STUDENTS' SPECIAL NEEDS

■ **MODIFICATION STRATEGIES** — Teachers need to know and understand the goals, documentation requirements, and accommodations in a student's IEP (Individualized Education Plan). For students with special needs (or any student who struggles with learning), the modifications below can aid student learning.

TIME

- > Extended time
- > Multiple test sessions

SUPPORT

- > Working with peers
- > Hand out copies of teachers' notes
- > Preferential seating
- > Multi-sensory presentation

ASSIGNMENT

- > Modified assignment
- > Chunking content into more manageable pieces
- > Read assignment and directions
- > Student repeats directions for checking
- > Highlighted text
- > Fewer choices

■ **PLAN ADJUSTMENTS TO MEET INDIVIDUAL NEEDS** — Some students may require adaptive tools. Collaborate with special education teachers and therapists to see what techniques can be incorporated in the regular classroom to make learning more effective. Some of the modifications may also assist students who aren't officially identified as having special needs. Examples:

- > Stability ball for students with energy or Occupational Therapy issues
- > Therapy balls and therapy bands to balance the sensory system
- > Voice amplification system
- > FM systems
- > Pencil grips
- > Highlighter strips and reader trackers
- > Specialized seating arrangements
- > Assistive technology and software that turns voice into text or reads text aloud (see below)

■ 13 FREE ASSISTIVE TECHNOLOGY RESOURCES

Source: www.ncld.org/students-disabilities/assistive-technology-education/free-assistive-technology-resources

- > **BOOKSHARE** — Accessible online library for people with print-based disabilities. Bookshare offers over 200,000 digital books for K-12, college, and adult students (must submit proof of disability).
- > **DICTATION FOR iOS** — Dictation, a feature that allows you to speak instead of typing, is built into iPhone 4s and newer models and iPad 3.
- > **DRAGON DICTATION** — A speech-to-text app allows you to speak and instantly see your email and text messages.
- > **FIREFOX WITH ADD-ONS** — Add-ons to the Web browser Firefox (a free download offering features like text-to-speech and dictionaries for easier internet browsing).
- > **GMAIL** — The free email app comes with a text-to-speech reader, spell check, and built-in organization systems.
- > **GOOGLE CALENDAR REMINDER APPS** — For organization and scheduling, the app syncs all of your daily tasks and sends reminders to your phone or tablet.
- > **GOOGLE DRIVE** — Create documents, spreadsheets, and slideshows and share them with others — teacher, tutor, or classmate.
- > **LIBRARY OF CONGRESS** — This library of audio materials circulates to eligible borrowers with reading disabilities.
- > **LIBRIVOX** — LibriVox is a volunteer-run organization that provides audiobooks of works in the public domain, including religious texts and classic literature.
- > **PROJECT GUTENBERG** — Project Gutenberg provides e-books (in multiple formats) of non-copyrighted works, including many classic and historical texts.
- > **SIRI** — Siri is Apple's "personal assistant" that responds to voice commands. Use it for dictation, to make calls, and to set reminders. Other brands of smartphones have similar features.
- > **VLINGO** — Vlingo is a virtual assistant using speech-to-text technology to send messages and find information, and is available on all major smartphone and tablet platforms.
- > **WORDTALK** — A plugin for Microsoft Word (available only for Windows users) speaks the text of any Word document and highlights as it goes.

■ **ADDRESSING STUDENT NEEDS** — All of us have abilities and struggles, and some of those struggles need to be tackled through planning. When you learn something new about a student, include it on a student profile and plan for ways to address the need. For example, if a student has

- > **TEST ANXIETY** — Keep a note of that and try this strategy before tests ... Give students time to list their test-taking worries beforehand to help clear working memory and to alleviate some fears. Don't expect students to have coping skills; teach them with direct instruction and follow-up with modeling and regular discussion about the self-talk involved in coping and thinking positively. After specifying areas students need to address, eliciting students' personal successes may put challenges in a positive light.
- > **LACK OF HOPE AND MOTIVATION** — Understand that we all need hope to feel motivated. Give students hope for success through preparation, scaffolding, differentiation, extra time, and more. "Hope must precede responsibility, because kids who lack hope have no reason to act in responsible kinds of ways. There's no reason to be motivated unless [the student] is hopeful that ...coming here and performing, producing, and behaving is better than coming here and wasting time, pushing other people's buttons, and doing nothing." — *Motivating Students Who Don't Care*, by Allen Mendler

> **STUDENT MOTIVATION FACTORS** — Teaching and learning experiences can increase student motivation by being positive in these areas:

- > **COMPETENCE**—The student believes he or she is capable of completing the task.
- > **EFFORT** — The student feels in control and sees a connection between actions and the outcome. The student believes more effort will lead to better results.
- > **VALUE**— The student values the work and believes that completing the task brings a reward, such as approval from people important to the student, a sense of personal accomplishment, social stature, etc.

> IC. SELECTING INSTRUCTIONAL OUTCOMES

> VALUE , SEQUENCE & ALIGNMENT, CLARITY AND BALANCE

NOTE: *When planning instruction, learning outcomes cannot be considered in isolation but involve what students will be expected to learn (learning target), instructional activities (see 1E), resources (see 1D), and method of assessment (1F).*

■ **LEARNING TARGETS** — Include various types of learning targets. The types in Kentucky's deconstructed standards:

- > **KNOWLEDGE** — facts and concepts students need to know
- > **REASONING** — students use what they learn to reason and solve problems
- > **PERFORMANCE SKILLS** — students apply their knowledge and reasoning skills to an actual performance
- > **PRODUCT** — students use their knowledge, reasoning, and other skills to create a product

ELA: education.ky.gov/curriculum/ELA/Pages/ELA-Deconstructed-Standards.aspx

Math: education.ky.gov/curriculum/math/Pages/Mathematics-Deconstructed-Standards.aspx

■ **PERSONAL CONNECTION** — Relevance (or meaning) is one of the keys to retention. Students are not likely to remember content or skills they consider irrelevant. Besides connecting to their lives, build relevance with background knowledge. (Keep in mind that it is students' perception of relevance that matters, not a teacher's.) Some strategies for increasing relevance include

- > Guest speakers (to make connections to real life)
- > Field trips
- > Pop culture
- > Current events
- > Videos (to build knowledge)
- > Opportunities to tie learning to family history/stories
- > Connecting to reading or previously learned content

■ **REGULAR GOAL SETTING AND PROGRESS CHECKS** — Maintain clear daily, weekly, and monthly goals for the class; help learners set their own goals. Goal setting allows students to visualize success, see results, and celebrate gains. Avoid unrealistic expectations, and focus on small successes to build confidence and a positive attitude.

> SUITABILITY FOR DIVERSE LEARNERS

■ **CONNECT WITH VISUALS** — Use a wide variety of graphic representations like making physical models, generating mental pictures, or creating pictures and pictographs and graphic organizers to help students understand new concepts or the relationships between ideas. The internet makes images and examples easy to access. Have students look for examples, too.

■ **GET PHYSICAL WITH NEW IDEAS** — Using physical representations, such as body symbols, human graphs, dances, or movements to go with songs can make new information memorable and provide an outlet for students who need action to make concepts stick.

■ **CURRICULUM COMPACTING** — Students who have mastered parts of the curriculum ahead of classmates can use time for alternate extension activities.

- > Identify candidates for compacting, and assess their understanding of a particular topic.
- > Plan activities to ensure the student learns skills and understandings not mastered.
- > Design an investigation or study to engage advanced students while others work with the general lesson.

■ **ONLINE CLASS TOOLS** — Classtools.net offers original activities, quizzes, games, and diagrams. Some include:

- > Fakebook: mock “Facebook” page for fictional characters, historical figures, etc.
- > Twister: fake tweets for characters, historical figures, etc.
- > Random name picker tools
- > Timeline tools
- > QR Code treasure hunt generator

■ **OPTIMAL CLASSROOM LAYOUT** — Teachers and students use Classroom Architect, www.classroom.4teachers.org, to create and modify a virtual classroom before rearranging the actual room. Start with the room with one set up. When you’re ready for a change, tell students the criteria and needs for the room, and let teams work on an alternative setting. Changing the room setup could be a first project for students if the necessary skills connect to the content that students need to learn.

■ **REINVENT HOMEWORK WITH ‘FLIPPED CLASSROOMS’** — Flipped classrooms generally involve students watching a recorded video lecture or demonstration outside of school followed by expanded in-class activities. The classroom is “flipped,” because the whole-class lecture swaps places with an extension activity. (The explanatory materials could be covered at school if no access to technology exists at home.) On the Internet, the Khan Academy is a leading source of flipped lectures (khanacademy.org). Don’t flip the classroom for the sake of following a trend — use this strategy to boost the quality of teaching and learning experiences.

■ **REVIEW AND REINFORCE STUDENT LEARNING** — Use the flipped classroom resources for students who need review and reinforcement. Plan for responding to formative assessment results that demonstrate lack of mastery by identifying and assigning students the lecture or demonstration video that gives students another way to learn.

■ **INCREASE PURPOSE AND AUTHENTICITY** — With your colleagues, map your town or neighborhood. Include businesses, services, geographical or natural features, and recreational facilities. What connections can you make to skills and concepts you’re going to teach this year? What are the connections you can make to enhance instruction?

Take a field trip to local places (i.e., community center, city hall, mall, doctor’s office, cemetery, etc.) to find out about real-life problems. Relate the issues to skills and concepts you are going to study. Let them pick a project where they’d like to apply their knowledge.

Teach students how to interview community members (how to begin an interview; asking follow-up questions; how to probe; taking notes, collecting records). Use the students’ interview reports as a foundation for defining community study, service projects, or project-based learning tasks.

■ **WEB RESOURCES**

- > **TEACHERSFIRST.COM** — Video content for topics K-12, students and teachers; ready-to-go lesson plans; templates for teachers; professional reading. Other features include bibliography linked to content area, including lexile levels, blogs, and recommended apps
- > **TEACHERVISION.COM** — Video content for teachers and students; texts available for teachers and students such as printables, graphic organizers, and student books; materials ready for student use; ready-to-go lesson plans and unit plans; templates for teachers; and professional reading
- > **DISCOVERYEDUCATION.COM** — Video content such as digital textbooks, streaming digital media for students and teachers, materials ready for student use, ready-to-go lesson plans, and professional reading. Courses are available for purchase
- > **NATIONALGEOGRAPHIC.COM** — Video content ; games for young children; materials for classroom/research use, and articles

■ **PROFESSIONAL LISTSERVS** — The University of Kentucky College of Education hosts over 180 listservs for teachers across the state. Join one to get up-to-date information on your content areas. www.coe.uky.edu/lists/kylists.php

■ **PROFESSIONAL ORGANIZATIONS** — Use resources from content organizations at the state and national level, professional organizations such as KASC and KEA, and local cooperatives to find resources to support your teaching. (See a list of some of the options at the end of this component.)

■ **ONLINE PROFESSIONAL DEVELOPMENT** — Use the Internet to find webinars, podcasts, content academies, and videos to develop content knowledge and instructional proficiency. One exceptional site is www.khanacademy.org, a free resource that can also be used with students. Many colleges and universities also offer free online courses.

■ **TEACHING CHANNEL** — Professional learning on the Internet and PBS profiles inspiring teachers and “hosts a community for educators to share ideas and best practices.” Videos include subjects and classroom topics categorized by grade level and subject area. Teaching topics include planning, culture, behavior, engagement, differentiation, assessment, collaboration, Common Core, and new teachers. www.teachingchannel.org

> RESOURCES FOR STUDENTS

■ **VIDEOS BY STUDENTS AND TEACHERS** — Teacher Tube, www.teachertube.com, offers free online instructional videos. The site has ads, but the videos by students are useful. Valuable video resources are also available on YouTube, though teachers should screen all video content in advance. www.youtube.com

■ **INTEREST-BASED MENTORING** — Resource teachers, media specialists, parent volunteers, older students, or community members can guide students’ growth in a particular area or interest where a mentor has expertise.

■ **STUDENT READING LEVEL** — Provide students with text at varied levels so that no matter the reading level, students can discuss important concepts.

■ **LEARNING BEYOND THE CLASSROOM** — Provide students and families options for learning beyond the classroom:

- > Reading list for breaks
- > Web sites and apps focused on a skill
- > Skills practice
- > Homework help
- > Trustworthy research and reference materials
- > Suggestions for mentoring or jobs in the community

Ask students to help compile and monitor the list.

> I.E. DESIGNING COHERENT INSTRUCTION

> LEARNING ACTIVITIES

NOTE: See Domain 3 Instruction > Strategies for Improving PGES Performance *for specific instructional strategies*.

■ **INVOLVE STUDENTS IN PLANNING** — To make experiences more relevant, involve students in planning learning activities. Students will also be engaged by connecting learning to technology and other media.

■ **HIGHER-LEVEL ACTIVITIES** — Use Hess’s Cognitive Rigor Matrix for increasing the level of thinking and work required in student activities. The model combines the revised Bloom’s Taxonomy and Webb’s Depth of Knowledge, with versions for math/science and English/language arts. An example from the English/language arts matrix shows how Bloom’s definition of “evaluate” complements Webb’s “strategic thinking/reasoning”:

- > “Describe, compare, and contrast methods for solving a problem”
- > “Verify the reasonableness of results”
- > “Justify or critique conclusions that have been drawn”
- > “Cite evidence and develop a logical argument for conjectures”

■ **PRIOR KNOWLEDGE** — Plan ways for students to share their own knowledge, thoughts and ideas about the content or concept being studied. Some formal tools for that process:

A. TRADITIONAL K W L — Using the chart, students answer the questions:

- > “What do I **Know** about the topic?”
- > “What do I **Want** to learn about the topic?” before a lesson, activity, or unit.
- > Later they return to answer “What did I **Learn** about the topic?”

B. SCIENCE VARIATION T H C

- > “What do you **Think**?”
- > “**How** can we find out?” Students explain how they can test their ideas.
- > “What **Conclusions** can I make from what we’ve learned?”

C. KNOW-WONDER-LEARN

- > K: What do you already **Know** about the topic?
- > W: What do you **Want** to learn?
- > H: **How** can you learn more?
- > L: What are you **Learning**? (Record observations and information as you learn.)

The teacher can reinforce learning beyond the classroom with these questions: What action will you take with what you learned? What new questions do you have?

D. MATH VERSION

- > “What do I **Know** from the information stated in this problem?”
- > “What information do I **Not** need in order to solve this problem?”
- > “**What** exactly does this problem ask me to find?”
- > “What **Strategy** or operation will I use to solve this problem?”

■ **LITERACY DESIGN COLLABORATIVE TEMPLATES** — These templates are free resources for planning instruction for high-level learning. An example of one of the templates follows:

After researching _____ (informational texts) on _____ (content), write a (report or substitute) that defines and explains _____ (content). Support your discussion with evidence from your research.

Elementary: ELA, social studies, and science for Grades 4-5 created by LDC are available in CIITS or at www.literacydesigncollaborative.org/wp-content/uploads/2012/10/LDC-Elementary-Template-Tasks-v1.pdf

Secondary: Tasks for integrating literacy into middle and high school content areas (grades 6-12) created by LDC are available in CIITS or at www.literacydesigncollaborative.org/resources/

■ **MATH DESIGN COLLABORATIVE LESSONS** —

Elementary: Sample lessons for grades K-5 are available in CIITS or at maccss.ncdpi.wikispaces.net

Secondary: Sample lessons for grades 6-12 are available in CIITS or at map.mathshell.org/materials/lessons.php

> INSTRUCTIONAL MATERIALS AND RESOURCES

■ **SUPPLEMENT INSTRUCTIONAL MATERIALS** — Have students identify how content being learned connects to their world, and share connections with the class. Allow students to identify or create their own learning materials. Older students can create folders on the classroom computer(s) citing reference materials they found helpful and including their own projects and research. Materials can be saved for future students.

■ **STUDENT CHOICE IN INFORMATION GATHERING** — Give students choice in how they access, interpret, and process information. Make various technologies and media available for students to maximize research.

■ **STUDENT JOURNALS AND LEARNING** — In addition to exploring interests and logging ideas, journals can be used to document achievement targets mastered and areas providing a challenge. Journals can give students a chance to reflect on learning experiences and list questions.

■ **PROFESSIONAL ORGANIZATIONS** — Join a professional organization to stay abreast of current research and instructional practices. (See a list of options at the end of this component.)

■ **ONLINE COMMUNITIES** — Find web sites and blogs that can expand content knowledge or use of technology. Following a blogger on Twitter can provide inspiration to implement in class and share. Build a network to find new resources. Many of the teachers who market products on a site like Teachers Pay Teachers will also link to blogs, Twitter accounts, and Facebook pages. Online networking can connect you to larger discussions and new thinking.

> INSTRUCTIONAL GROUPS

NOTE: *The following instructional group strategies are repeated in Domain 3C. Engaging Students.*

■ **GROUPING STUDENTS BASED ON PURPOSE** — Use multiple groupings suitable to the lesson objective, including student self-groupings. For differentiation, groups could be based on:

A. INTEREST

- > Student interests and talents
- > Student self-selection

B. READINESS

- > Overall MAP math or reading scores
- > Pre-assessment of knowledge for a unit or concept

C. LEARNING PROFILE / LEARNING STYLE

- > Visual, auditory, kinesthetic
- > Multiple Intelligence strengths
- > 4-Mat

■ **FLEXIBLE GROUPING** — It's important that students are not assigned to set groups that don't change. Student grouping should be flexible, and should change to meet the purpose of the group. The following article provides a brief explanation of different groupings based on the type of learning involved and includes an easy-to-use chart for planning: www.eduplace.com/science/profdev/articles/valentino.html

■ **GROUND RULES FOR GROUP DISCUSSION** — Set expectations with students after they understand the goals of class discussions and have experienced good models of discussion. Some examples of ground rules might include:

- > Treat others as you would like to be treated
- > Allow each person to speak without interruption
- > Critique the ideas, not the person
- > Provide supporting evidence or examples

It is the responsibility of the teacher *and* the students to hold themselves and each other accountable for rules created.

■ **USE COOPERATIVE LEARNING** — Cooperative learning structures organize interactions between students for instruction. They also heighten engagement in the classroom. Some structures organize partner work, others focus on teamwork, and some involve the whole class. The key to using cooperative learning structures is to meet a particular purpose in instruction (i.e., reviewing content, discussion, team building, etc.). A few popular structures:

- > **SCOOT** — To review content, students move from one desk to another solving problems or answering questions on task cards and compiling answers on recording sheet. Students work until all problems/questions are answered.
- > **TEAM SCOOT** — Students rove and tackle fewer problems as a team, allowing for more discussion and peer teaching. All students still have to work the problem or record answers but can collaborate.
- > **THINK-PAIR-SHARE** — The Think-Pair-Share strategy provides students time and structure to work on a given topic, enabling an opportunity to formulate individual ideas and share with a peer. This strategy promotes participation by encouraging a high percentage of pupil response. In this strategy, a problem is posed, students think about it individually, then work in pairs to solve the problem and share thoughts with the class. Think-Pair-Share is easy within a planned lesson, but it also works for spur-of-the-moment discussions. This strategy can be used for a variety of daily classroom activities like concept reviews, discussion questions, partner reading, brainstorming, quiz reviews, topic development, etc. Think-Pair-Share develops conceptual understanding of a topic plus the ability to filter information, draw conclusions, and consider other points of view.
- > **STAND UP, HAND UP, PAIR UP** — Students stand up, put their hand up until they find a partner, then share or discuss. This structure is perfect for teambuilding, processing and reviewing information, energizing the class, forming random pairs or teams, lesson starts, or wraps.

> I.F. DESIGNING STUDENT ASSESSMENTS

NOTE: See Domain 3D. Using Assessment in Instruction *for specific assessment strategies. Some are included in this section.*

> CONGRUENCE BETWEEN INSTRUCTIONAL OUTCOMES AND CRITERIA & STANDARDS

■ **ESSENTIAL QUESTIONS/LEARNING TARGETS** — At the start of each lesson, post and cover essential questions or learning targets. Students need to understand and be able to convey what they should learn. Reference the questions or targets throughout the lesson. Tie them to any independent work. (Make sure targets are congruent with the standards.)

■ **ASSESSMENT TIED TO THE STANDARD** — Double-check that assessment criteria match the level of the standards. For example, if the standard says “contrast,” to adequately show contrast, a student must describe differences, not just list them.

■ **CRITERIA FOR HIGH-QUALITY WORK** — Make sure rubrics spell out criteria for quality work. Criteria should clarify the purpose of learning. When possible, co-develop rubrics with students so they learn how to define quality work. Review the rubric before the assignment so that all students clearly understand expectations. Students should have numerous opportunities to see and analyze high-quality work that matches the rubric.

■ **RUBRICS ONLINE** — Rubistar (rubistar.4teachers.org) is a free tool to help teachers create and save rubrics. The site includes language that would connect with criteria for many types of content-area products, with a tool that leads through rubric creation. After choosing criteria, the site offers draft language for performance levels. You may revise wording from the database or insert your own.

■ **SELF-ASSESSMENT** — Provide clear criteria and standards for students to monitor their progress. Students develop insight and ownership when they are able to review their own performance, explain the reasons for choosing the processes, and identify next steps. Self-reflection, an important concept in any form of assessment, is particularly important for a student portfolio. Points to remember:

- > Help students accurately identify their strengths and areas for improvement.
- > Model and encourage using the language of the scoring guide.
- > Use established criteria to explain student work.
- > Make sure students use feedback to identify areas for improvement and to set goals.

■ **CONTENT VOCABULARY PRE-TEST** — A pre-test on content vocabulary can show where terminology is a stumbling block. Some terms may need more direct-instruction time in the classroom. Send home words students miss for more attention. (Make sure the students know they won't be graded on the pre-test.)

> DESIGN OF FORMATIVE ASSESSMENTS AND USE FOR PLANNING

NOTE: *Assessment gives students feedback on their performance. In designing formative assessment, plan how you will provide feedback so students can benefit from this powerful student achievement tool.*

■ **GIVE PRE-ASSESSMENTS** — Gather information about students' prior knowledge and areas of strength and weakness. Instruction can be tailored to meet students' learning needs and to better monitor what students learn.

■ **WRONG-ANSWER ANALYSIS** — Lead meaningful analysis of wrong answers on tests or quizzes or have students tackle the task in small groups. Students need prompt feedback to learn. Students should see what they missed and address misconceptions. Make this an engaging learning experience and set aside time for this analysis and re-teaching. After tests, ask students to explain why they chose/wrote a particular answer. Allow corrections to tests for extra points or a revised grade after students demonstrate that they know the content. Credit for the wrong-answer analysis will motivate some students.

■ **FLASHBACKS** — Design multiple-choice or short-answer questions for the beginning of each class. Questions should review prior skills/content. Daily review keeps content fresh and allows tracking of student retention.

■ **EXIT SLIPS** — During the last five minutes of class, teachers can give students slips of paper, sticky notes, or index cards to answer one or two questions posted for students to answer. The teacher collects slips as students leave class and reviews responses to learn how many students got the big idea and misunderstanding that exists. Lessons for the next day are adjusted to address student needs. Slips could also be prepared ahead of time with multiple-choice and

short-answer questions. Make sure questions are tied to the essential question or learning target for the lesson.

■ **POLL EVERYWHERE** — Take your anticipation guide or pre-test online and have students use mobile devices to answer questions regarding a topic. These questions should be true/false or agree/disagree. Polls, quizzes, or surveys can be located on CIITS, on free polling sites like polleverywhere.com, or apps such as Socrative.

■ **IMMEDIATE FEEDBACK** — Give students immediate feedback on what they’ve mastered. Using technology like Gradecam (www.gradecam.com), feedback on formative assessments or daily reviews can be immediate. Gradecam is a web or document camera that immediately assesses multiple-choice responses and even loads results into a grade book as well as provides an item analysis for teachers to see whole-class results.

An app such as Socrative will also allow teachers to pose multiple-choice questions, grade answers, and receive scores. Teachers can hold short conferences with students to discuss what they’ve learned before class is over. Quick grading and feedback on multiple-choice allows time for conferencing about writing and more complicated projects. The web site www.curriculet.com allows teachers to create and share lessons/materials, embed questions and quizzes into text, and track mastery of skills and standards. Students get immediate feedback on correct/incorrect responses. In a 1:1 classroom, the free app Gedit allows students to rate their understanding of content as it is covered. Responses are seen only by the teacher. Gedit can check understanding via multiple-choice and short-answer questions.

■ **GUIDELINES FOR EFFECTIVE FEEDBACK** — In general, children are successful when the curriculum encourages them to reset personal expectations to a higher plane. Every student should have access to and be expected to master the curriculum. The curriculum can help students set higher expectations for themselves. Create clear lists of what students need to master in each content area, and assess regularly to monitor mastery. Share this information with students and parents.

Feedback should be immediate when learning a new skill. Repeating incorrect knowledge or practicing skills the wrong way makes the material harder to correct.

- > Use the language of the scoring guide.
- > Offer only as much feedback as students can act on at one time. Narrow comments to specific knowledge and skills.
- > Feedback shouldn’t be a judgment of students as people but should ensure they react productively to results. To get the best results, students must understand feedback, be clear on what to do the next time, and feel that they are able to handle it. Effective feedback will encourage students to keep trying.
- > Feedback doesn’t have to come only from the teacher; it can come from answer keys, self-checking puzzles or games, from students or other adults, and also from the criteria on a checklist or scoring guide.

Encourage student self-assessment and peer assessment.

■ **ANALYZE DATA** — With your grade-level and subject-area teacher teams, establish procedures to formally analyze annual achievement data, set measurable goals, and identify specific areas that need improvement.

> DOMAIN 1 SUPPLEMENTAL INFORMATION

> PROFESSIONAL ORGANIZATIONS

CONTENT AREA	PROFESSIONAL ORGANIZATION	WEB SITE
AGRICULTURE	National Association of Agriculture Educators (NAAE)	www.naae.org
	Kentucky Association of Agriculture Educators (KYFFA)	www.kyffa.org
ART	Kentucky Arts Council (KAC)	www.artscouncil.ky.gov
	National Art Education Association (NAEA)	www.arteducators.org
	Louisville Visual Art Association (LVAA)	www.louisvillevisualart.org
	Kentucky Art Education Association (KyAEA)	www.kyaea.org

CONTENT AREA	PROFESSIONAL ORGANIZATION	WEB SITE
BIOLOGY	National Association of Biology Teachers (NABT)	www.nabt.org
CAREER & TECHNICAL EDUCATION	Association for Career and Technical Education (ACTE)	www.acteonline.org
	Kentucky Association for Career and Technical Education (KACTE)	www.kacteonline.org
CHEMISTRY	American Association of Chemistry Teachers (ACS)	www.acs.org
DRAMA	American Alliance for Theater and Education (AATE)	www.aate.com
ECONOMICS	Kentucky Council on Economic Education (KCEE)	www.kcee.org
	Council for Economic Education (CEE)	www.councilforeconed.org
ENGLISH LANGUAGE ARTS	National Council of Teachers of English (NCTE)	www.ncte.org
	Kentucky Council of Teachers of English/LA (KCTE/LA)	www.kcte.org
EXCEPTIONAL CHILDREN / SPECIAL EDUCATION	Council for Exceptional Children (CEC)	www.cec.sped.org
	National Association of Special Education Teachers (NASSET)	www.naset.org
EXCEPTIONAL CHILDREN / GIFTED	National Association for Gifted Children (NAGC)	www.nagc.org
	Kentucky Association for Gifted Education (KAGE)	www.wku.edu/kage
MATH	Kentucky Council of Teachers of Mathematics (KCTM)	www.kctm.org
	National Council of Teachers of Mathematics (NCTM)	www.nctm.org
	Kentucky Center for Mathematics (KCM)	www.kentuckymathematics.org
MUSIC	Kentucky Music Educators Association (KMEA)	www.kmea.org
	National Association for Music Education (NAfME)	www.nafme.org
	Music Teachers National Association (MTNA)	www.mtna.org
	Kentucky Music Teachers Association (KMTA)	www.kymta.org
PHYSICAL EDUCATION	Shape America	www.shapeamerica.org
	National Association for Sport and Physical Education	www.humankinetics.com
	American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)	www.aahperd.org
	Kentucky Association for Health, Physical Education, Recreation, and Dance (KAHPERD)	www.kahperd.com
READING	Kentucky Reading Organization (KRA)	www.kyreading.org
	Collaborative Center for Literacy Development (CCLD)	www.kentuckyliteracy.org
	International Reading Association (IRA)	www.reading.org

CONTENT AREA	PROFESSIONAL ORGANIZATION	WEB SITE
SCIENCE	Kentucky Science Teachers Association (KSTA)	www.ksta.org
	National Science Teachers Association (NSTA)	www.nsta.org
	Kentucky Association for Environmental Education (KAEE)	www.kaee.org
SOCIAL STUDIES	National Council for the Social Studies (NCSS)	www.socialstudies.org
	Kentucky Council for the Social Studies (KCSS)	www.kcss.org
TECHNOLOGY	Kentucky Society for Technology in Education (KySTE)	www.kyste.org
	International Technology and Engineering Educators Association (ITEEA)	www.iteaconnect.org
WORLD LANGUAGE	Kentucky World Language Association (KWLA)	www.kwla.org
	American Council on the Teaching of Foreign Language (ACTFL)	www.actfl.org
WRITING	Association of Writers and Writing Programs (AWP)	www.awpwriter.org
	Kentucky Arts Council (KAC)	www.artscouncil.ky.gov