

## Teacher Quality Standard I

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

*The key to distinguishing the knowledge base of teaching rests at the intersection of content and pedagogy.*

—L. S. Shulman

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

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

### Element E

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

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

#### PROFICIENT RATING LEVEL

##### PROFESSIONAL PRACTICES: THE TEACHER:

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

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

*Refer to these external resources for additional information:*

- Article: "Ten Ways to Integrate Curriculum" by Robin Fogarty  
[http://www.ascd.org/ASCD/pdf/journals/ed\\_lead/el\\_199110\\_fogarty.pdf](http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_199110_fogarty.pdf)



[Click here to go back to the table of contents and view the resource guide in its entirety.](#)

Article describes different models teachers may use for making interdisciplinary connections for students.

- Article: “Integrating Curriculum Planning Wheels Turn Curriculum Around” published by ASCD [http://www.ascd.org/ASCD/pdf/journals/ed\\_lead/el\\_199110\\_palmer.pdf](http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_199110_palmer.pdf)

Article describes how a group of teachers in Maryland uses a planning wheel to make interdisciplinary connections for students.

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

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

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

#### Numeracy:

The teacher who employs instructional strategies that include numeracy:

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

*Refer to this internal resource for additional information:*

- Strategies for Employing Numeracy across Content Areas

Document lists strategies for employing numeracy in all content areas.

#### Language:

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

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

Examples of academic language include these:

- *Mathematics:* equation, fraction, exponent, and monomial. Often mathematical terms have multiple meanings, which can lead to confusion in meaning (i.e., square, coordinate, degree).
- *Language arts:* theme, stanza, iambic pentameter, exposition, denouement.



[Click here to go back to the table of contents and view the resource guide in its entirety.](#)

- *Educational settings:* explain, describe, justify, and determine.

Colorado Academic Standards in Reading, Writing, and Communicating call for students to create both academic and technical texts for particular audiences and specific purposes. Expectations for students include these:

- Articulate a position through a sophisticated claim or thesis statement and advance it using evidence, examples, and counterarguments
- Select appropriate and relevant information (excluding extraneous details) to set context
- Address audience needs and anticipate audience questions or misunderstandings
- Select and build context for language appropriate to content (technical, formal)
- Control and enhance the flow of ideas through transitional words or phrases appropriate to text structure
- Support judgments with substantial evidence and purposeful elaboration
- Draw a conclusion by synthesizing information
- Revise writing using feedback to maximize effect on audience and to calibrate purpose

See more about Colorado’s writing and composition standards and grade-level expectations at <http://www2.cde.state.co.us/scripts/allstandards/COSTstandards.asp?glid=14&stid=6&glid2=0>

Instructional strategies for academic language development:

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

*Refer to these external resources for additional information:*

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



[Click here to go back to the table of contents and view the resource guide in its entirety.](#)