

Carmen High School of Science and Technology

The Alverno College Eight Ability Framework as a Tool for Assessing College and Career Readiness

Together with the ACT College Readiness Benchmarks and the Common Core Standards, the Alverno College Eight Abilities framework serves as one of the organizing cores of the Carmen High School of Science and Technology's educational model. Students are expected to demonstrate competence in each of the Eight Abilities in both their academic courses and internships, achieving increasingly challenging outcomes over the four-year term of high school. The Alverno College abilities-based model is designed specifically for teaching the subject areas that constitute a rich liberal arts curriculum. The Carmen curriculum team adapted Alverno College's criteria for assessing competencies in the Eight Abilities and embedded the criteria in the curriculum for each subject.

In every course at Carmen, students are evaluated on both subject matter (content) knowledge and their competencies in the abilities that support the acquisition and application of that knowledge in multiple contexts. At least one ability assessment is given in addition to the major unit assessments in each semester course, and at least two abilities are assessed. Each content area is assigned two primary abilities to assess. For example, history and social studies assess the Developing a Global Perspective and Effective Citizenship abilities and science and mathematics assess Problem Solving and Analysis as primary abilities. The Communication ability - including reading, writing, speaking, and listening - is secondary in all courses and primary in English language arts and literature courses. Students are not allowed to skip or pass out of a course by taking the required assessments, however, because the ability assessments do not address all of the subject area content delivered in a course.

The following example illustrates how a performance assessment can be used both to glean a student's content knowledge *and* ability to apply that knowledge in a new context using higher order thinking skills, just as he or she would be required to do in a professional setting.

EXAMPLE: A high school junior in the second semester of a course in Chemistry is given a performance assessment through which he or she must demonstrate knowledge of chemistry and show specific levels of competence in four abilities: analysis, communication, effective citizenship, and valuing in decision making.

The assessment asks the student to respond to a recent Notice of Proposed Rulemaking (NPRM) by the U.S. Environmental Protection Agency, which is seeking comments from the public on its plan to implement a new regulation lowering the allowable levels of mercury in tap water. The student must respond to the NPRM in the role of President of the *National Association of Manufacturers of Products that Release Mercury Into the Environment*.

Prior to the performance assessment, the student would have taken quizzes and/or tests to demonstrate understanding of the relevant science content, such as mercury's solubility properties in water and fat. In this performance assessment, the student has to *apply* that knowledge in a new context to discern the potential chemical effects of mercury in living organisms. Then, in order to be successful in the assessment, the student must:

- (1) Identify and respond to the pros and cons of the current mercury standard from various perspectives or frameworks of understanding (e.g., scientific, economic, political) [*analysis*].
- (2) Make an informed judgment/decision about the standard [*valuing in decision making*].
- (3) Advocate for a particular position on the standard [*effective citizenship*].
- (4) Articulate the position persuasively in writing [*communication-writing*].