Cross-Disciplinary Standards

CROSS-DISCIPLINARY STANDARDS

Foundations of Learning and Knowing

Although the College and Career Readiness Standards (CCRS) are organized into four distinct disciplinary areas, English/language arts, mathematics, science, and social studies, there are elements that cut across one or more disciplines. In fact, some skill areas span all four subject areas. It is important to identify the cross-cutting knowledge and skills that underlie and connect the four disciplinary areas. This important need has been addressed through the addition of a section addressing cross-disciplinary standards.

Think of cross-disciplinary standards as tools that college instructors in all areas use to challenge, engage, and evaluate students in each specific subject area. They include key cognitive strategies, such as reasoning, problem solving, and conducting research, as well as foundational skills, such as reading, writing, and data analysis.

Many of these skills are also taught within the context of a single subject area. Reading and writing are excellent examples of subject areas where this occurs. While the primary responsibility for developing reading and writing skills in secondary school resides within English/language arts courses, first-year college students are expected to employ a range of subject-specific reading and writing strategies and techniques in all of their courses. For example, they will write a lab report in a biology class or read primary source documents in a history class.

Academic and business leaders emphasize the importance of being able to apply these skills across a variety of contexts and subject matter. They describe 21st Century learning and work environments in which the cross-disciplinary skills are prerequisites to solving many of the most important problems students will encounter in college and the workplace. These problems increasingly require applying knowl-edge across disciplines and subject areas and the mastery of a base set of communication and analysis skills that span subject areas. Students, then, not only need to possess content knowledge, but also need to be able to apply key cognitive strategies to the academic tasks presented to them, most of which require much more than simple recall of factual knowledge. These cross-disciplinary standards enable students to engage in deeper levels of thinking across a wide range of subjects. They help high school students prepare for the transition from high school's primary focus on acquiring content knowledge to a post-secondary environment in which complex cognitive skills are necessary to achieve deeper understanding.

Understanding and Using The Cross-Disciplinary Standards

The cross-disciplinary standards are organized into two major areas: Key Cognitive Skills and Foundational Skills. The Key Cognitive Skills specify intellectual behaviors that are prevalent in entry-level college courses. The list includes intellectual curiosity, reasoning, problem solving, academic behaviors, work habits, and academic integrity. Foundational Skills consist of proficiencies students need to be able to transfer knowledge and apply it across the curriculum. These include reading, writing, conducting research, understanding and using data, and using technology.

The first three levels of the cross-disciplinary standards, the key content, the organizing components, and the performance expectations, are written to apply across subject areas. The performance indicators, however, illustrate how the cross-disciplinary standards are manifested within the subject areas. The Vertical Teams created an example in each subject area of at least one performance indicator that could be applied in that subject area. These indicators are meant to exemplify how the cross-disciplinary standards could be demonstrated in all subject areas.

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I. Key Cognitive Skills

A. Intellectual curiosity

1. Engage in scholarly inquiry and dialogue.

2. Accept constructive criticism and revise personal views when valid evidence warrants.

B. Reasoning

1. Consider arguments and conclusions of self and others.

2. Construct well-reasoned arguments to explain phenomena, validate conjectures, or support positions.

3. Gather evidence to support arguments, findings, or lines of reasoning.

4. Support or modify claims based on the results of an inquiry.

C. Problem solving

1. Analyze a situation to identify a problem to be solved.

2. Develop and apply multiple strategies to solve a problem.

3. Collect evidence and data systematically and directly relate to solving a problem.

D. Academic behaviors

1. Self-monitor learning needs and seek assistance when needed.

2. Use study habits necessary to manage academic pursuits and requirements.

3. Strive for accuracy and precision.

4. Persevere to complete and master tasks.

E. Work habits

1. Work independently.

2. Work collaboratively.

F. Academic integrity

1. Attribute ideas and information to source materials and people.

2. Evaluate sources for quality of content, validity, credibility, and relevance.

3. Include the ideas of others and the complexities of the debate, issue, or problem.

4. Understand and adhere to ethical codes of conduct.

II. Foundational Skills

A. Reading across the curriculum

1. Use effective prereading strategies.

2. Use a variety of strategies to understand the meanings of new words.

3. Identify the intended purpose and audience of the text.

4. Identify the key information and supporting details.

5. Analyze textual information critically.

6. Annotate, summarize, paraphrase, and outline texts when appropriate.

7. Adapt reading strategies according to structure of texts.

8. Connect reading to historical and current events and personal interest.

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B. **Writing across the curriculum**

1. Write clearly and coherently using standard writing conventions.

2. Write in a variety of forms for various audiences and purposes.

3. Compose and revise drafts.

C. **Research across the curriculum**

1. Understand which topics or questions are to be investigated.

2. Explore a research topic.

3. Refine research topic based on preliminary research and devise a timeline for completing work.

4. Evaluate the validity and reliability of sources.

5. Synthesize and organize information effectively.

6. Design and present an effective product.

7. Integrate source material.

8. Present final product.

D. **Use of data**

1. Identify patterns or departures from patterns among data.

2. Use statistical and probabilistic skills necessary for planning an investigation and collecting, analyzing, and interpreting data.

3. Present analyzed data and communicate findings in a variety of formats.

E. **Technology**

1. Use technology to gather information.

2. Use technology to organize, manage, and analyze information.

3. Use technology to communicate and display findings in a clear and coherent manner.

4. Use technology appropriately.