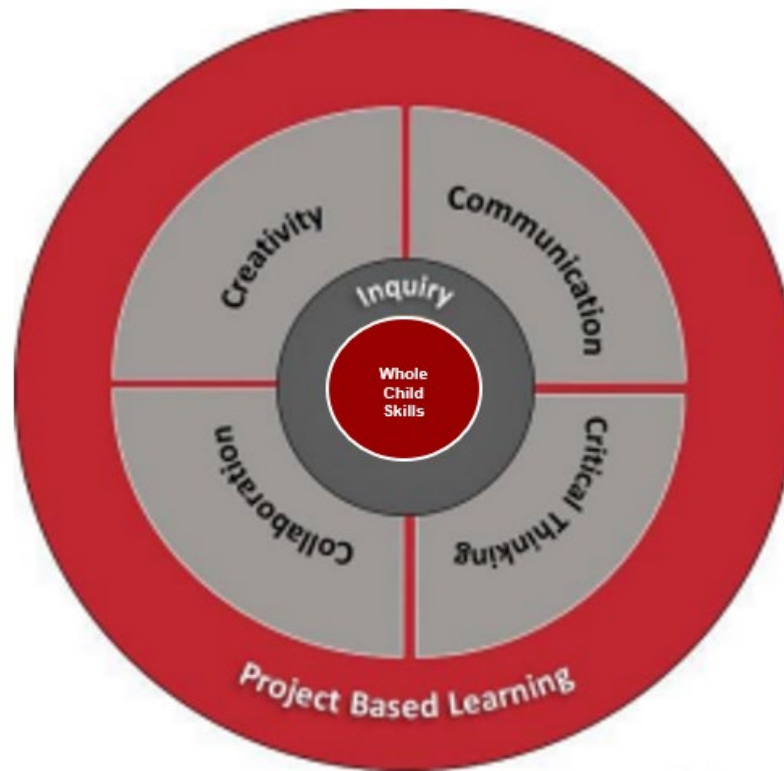

The Montana Standards Association Framework

Alignment Process and Criteria



Putting Montana Students First **A⁺**

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Associations Background

In reviewing work performed by Montana teachers on the associations between Skills, Practices, and Anchor Standards (hereafter referred to as “Skills”), of the eight disciplines (Career and Technical Education, Computer Science, English Language Arts, Library Media and Information Literacy, Mathematics, Science, Social Studies, and Technology Integration), several teaching and learning best practices became apparent.

The methodologies by which teachers made connections between Montana State Standard content skills were diverse and specific to each teacher team, but there were some clear commonalities identified through the learning frameworks listed below. This was an exciting revelation of the implementation of best practices in instruction by Montana Teachers!

The skills connections* that teachers developed were in alignment with the following:

➤ **The 4 C’s of 21st Century Learning:**

- Critical Thinking
- Creativity
- Collaboration
- Communication

➤ ***Project-Based Learning Elements (PBL):**

- Key Knowledge
- Challenging Problems & Questions
- Sustained Inquiry
- Authenticity
- Student Voice & Choice
- Reflection
- Critique & Revision
- Public Product

➤

Inquiry-Based Learning:

Student-Directed:

- Observing
- Questioning
- Exploring
- Communicating
- Reflecting

➤ **Montana Whole Child Skill Development Competencies:**

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision Making

➤ **Montana Legislative Goals**

- Sound Literacy and Numeracy Foundation
- Strong Work Ethic and Work Skills for Post-Secondary and Career Readiness
- Critical, Creative, and Strategic Reasoning
- Effective Communication
- Personal and Civic Responsibility
- Familiarization with global political social and economic systems
- Understands the American political, social, and economic systems and the historical context from which they arose
- Healthy Lifestyle

* [View the Montana teacher connections Jamboard workspace!](#)

*PBL Essential Elements retrieved from the World Wide Web June 10, 2022 <https://www.youtube.com/watch?v=QblQvtFmy2w>

Competencies

A team of content experts deliberated upon the common connections made by Montana teachers through the lens of their extensive research to determine global and national educational trends, ideologies, pedagogies, and best practices for teaching and learning. Six categories emerged and were developed in the following six competencies:

Competency	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Skills	Inquiry
Definitions	*Critical thinking involves accessing, analyzing, and synthesizing information.	*Collaboration is when parties choose to cooperate to accomplish a shared outcome.	*Creativity is a new and/or innovative process or product. The created item may be intangible (such as an idea, a career path, or a joke), or a physical object (such as an invention, a printed literary work, or a painting).	*Communication is the complex process of exchanging information through signs, symbols, gestures, body language, nuances, and conventions to develop mutual understanding.	**Developing Whole Child Skills includes: a) Self-Awareness b) Self- Management c) Social Awareness d) Relationship Skills e) Responsible Decision Making.	Inquiry is a non-linear student-led process that has the aim of augmenting knowledge, resolving doubt, or solving a problem, through observing, questioning, exploring, communicating, and reflecting.
Human Coding	K12CThkg	K12Collab	K12Create	K12Comm	K12MT-WCL	K-12Inquire

Competencies Definition:

The term “Competencies” represents the six categories of learning by which associations between the Montana Content Standards skills are made. The Montana Standards Association Framework definition for competencies is in line with the [IMS Global/CASE Network’s Reusable Definition of Competency or Educational Objective Specification](#).

*Joynes, C., Rossignoli, S., & Fenyiwa Amonoo-Kuofi, E. (2019). 21st Century Skills: Evidence of issues in definition, demand and delivery for development contexts (K4D Helpdesk Report). Brighton, UK: Institute of Development Studies

** Montana Whole Child Skill Development Competencies

Framework

The following framework shows associations between the content standards skills and competencies. Various teams of disciplinary specialists have determined the connections below, but we recognize that educators should not be limited to these associations. All skills have the potential to be associated with additional competencies depending on the instructional practice or unit of study.

Career and Technical Education (CTE) Skills

Coding	Career and Technical Education (CTE) Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
CTE.K12.1	Act as a responsible and contributing citizen and employee	X	X		X	X	
CTE.K12.2	Apply appropriate academic and technical skills	X					X
CTE.K12.3	Attend to personal health and financial well-being	X				X	
CTE.K12.4	Communicate clearly, effectively, and with reason	X	X	X	X	X	X
CTE.K12.5	Consider the environmental, social, and economic impacts of decisions	X				X	X
CTE.K12.6	Demonstrate creativity and innovation	X	X	X	X	X	X
CTE.K12.7	Employ valid and reliable research strategies	X			X	X	X
CTE.K12.8	Utilize critical thinking to make sense of problems and persevere in solving them	X	X		X	X	
CTE.K12.9	Model integrity, ethical leadership, and effective management	X	X		X	X	
CTE.K12.10	Plan education and career path aligned to personal goals	X	X	X	X	X	X
CTE.K12.11	Use technology to enhance productivity	X	X	X	X	X	X
CTE.K12.12	Work productively in teams while using cultural/global competence	X	X		X	X	

Computer Science Skills

Coding	Computer Science Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
CS.K12.1	Fostering an inclusive computing culture		X	X	X	X	
CS.K12.2	Collaborating around computing	X	X		X	X	
CS.K12.3	Recognizing and defining computational problems	X		X			X
CS.K12.4	Developing and using abstractions	X		X			X
CS.K12.5	Creating computational artifacts	X		X		X	X
CS.K12.6	Testing and refining computational artifacts	X				X	X
CS.K12.7	Communicating about computing		X	X	X	X	

English Language Arts and Literacy Skills

Reading

Coding	English Language Arts and Literacy: Reading Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
CCRA.R.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	X			X	X	
CCRA.R.2	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	X					X
CCRA.R.3	Analyze how and why individuals, events, and ideas develop and interact over the course of a text.	X				X	
CCRA.R.4	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	X		X	X	X	X
CCRA.R.5	Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.	X					X
CCRA.R.6	Assess how point of view or purpose shapes the content and style of a text.	X		X		X	X
CCRA.R.7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.	X		X	X	X	X
CCRA.R.8	Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.	X					X
CCRA.R.9	Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.	X				X	X
CCRA.R.10	Read and comprehend complex literary and informational texts independently and proficiently.	X				X	

English Language Arts and Literacy Skills

Writing

Coding	English Language Arts and Literacy: Writing Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
CCRA.W.1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	X			X	X	X
CCRA.W.2	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	X			X	X	
CCRA.W.3	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	X		X	X	X	
CCRA.W.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	X		X	X	X	
CCRA.W.5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	X		X	X	X	
CCRA.W.6	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.	X	X	X	X	X	
CCRA.W.7	Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	X				X	X
CCRA.W.8	Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	X			X	X	X
CCRA.W.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.	X				X	X
CCRA.W.10	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.	X		X	X	X	X

English Language Arts and Literacy Skills

Speaking and Listening

Coding	English Language Arts and Literacy: Speaking and Listening Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
CCRA.SL.1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	X	X	X	X	X	X
CCRA.SL.2	Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	X		X	X	X	X
CCRA.SL.3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.	X			X	X	X
CCRA.SL.4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	X			X	X	
CCRA.SL.5	Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.	X		X	X	X	
CCRA.SL.6	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	X		X	X	X	

English Language Arts and Literacy Skills

Language

Coding	English Language Arts and Literacy: Language Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
CCRA.L.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	X			X	X	
CCRA.L.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	X			X	X	
CCRA.L.3	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	X		X	X	X	
CCRA.L.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	X				X	X
CCRA.L.5	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	X		X	X	X	
CCRA.L.6	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.	X			X	X	X

Library Media and Information Literacy Skills

Coding	Library Media and Information Literacy Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
LM.NK	Build new knowledge by inquiring, thinking critically, identifying problems, and developing strategies for solving problems	X					X
LM.DD	Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community, including the distinct and unique cultural heritage of American Indians		X		X	X	
LM.WE	Work effectively with others to broaden perspectives and work toward common goals		X		X	X	
LM.MM	Make meaning by collecting, organizing, and sharing resources of personal relevance	X			X	X	
LM.EF	Exercise freedom to read and demonstrate the ability to pursue personal interests			X	X	X	X
LM.SLE	Demonstrate safe, legal, and ethical creating and sharing of knowledge products	X		X	X	X	

Mathematics Skills

Coding	Mathematics Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
MP1	Make sense of problems and persevere in solving them	X	X	X	X	X	X
MP2	Reason abstractly and quantitatively	X					
MP3	Construct viable arguments and critique the reasoning of others	X	X		X	X	
MP4	Model with mathematics	X		X		X	X
MP5	Use appropriate tools strategically	X		X			
MP6	Attend to precision	X	X		X	X	
MP7	Look for and make use of structure	X		X			X
MP8	Look for and express regularity in repeated reasoning	X		X			X

Science Skills

Coding	Science Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
SEP:1	Asking questions as it applies to science and defining problems as it applies to engineering	X		X	X	X	X
SEP:2	Developing and using models	X		X	X	X	X
SEP:3	Planning and carrying out investigations	X	X	X		X	X
SEP:4	Analyzing and interpreting data	X			X	X	
SEP:5	Using mathematics and computational thinking	X					X
SEP:6	Constructing explanations as it applies to science and designing solutions as it applies to engineering	X		X	X	X	X
SEP:7	Engaging in argument from evidence	X	X		X	X	
SEP:8	Obtaining, evaluating, and communicating information	X		X	X	X	X

Social Studies Skills

Coding	Social Studies Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
SS.K12.1	Develop questions	X		X			X
SS.K12.2	Plan inquiries			X			X
SS.K12.3	Compare and evaluate sources for relevance, perspective, and accuracy	X			X	X	X
SS.K12.4	Use sources to gather evidence to develop and refine claims	X	X	X		X	X
SS.K12.5	Communicate conclusions				X	X	
SS.K12.6	Take informed action	X		X	X	X	

Technology Integration Skills

Coding	Technology Integration Skills	Critical Thinking	Collaboration	Creativity	Communication	Whole Child Learning	Inquiry
TI.EL	Empowered learners	X		X		X	X
TI.DC	Digital citizens	X	X		X	X	
TI.KC	Knowledge constructors	X	X	X	X	X	X
TI.ID	Innovative designers			X			X
TI.CT	Computational thinkers	X		X			X
TI.CC	Creative communicators			X	X	X	
TI.GC	Global collaborators	X	X	X	X	X	X
TI.RU	Reflective users	X	X		X	X	