

# Graduation Guidelines

## Work Group Reports and Recommendations

### Executive Summary – 21<sup>st</sup> Century Skills

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#### INTRODUCTION:

In the past thirty years, our world has shifted dramatically and the way that schools prepare their students for this changing, globally connected world, needs to stay ahead of this shift. Developing 21<sup>st</sup> Century competencies in students will provide them with the skills and knowledge to face this dynamic future.

21<sup>st</sup> century skills are intentionally embedded in all content areas and all grade levels of the Colorado Academic Standards. In addition, the Colorado State Board of Education and the Colorado Commission on Higher Education jointly adopted 21<sup>st</sup> century skills as key elements of Colorado's description of postsecondary and workforce Readiness (PWR) also known as college and career readiness. Developmentally appropriate, content rich, authentic teaching and learning experiences of the 21<sup>st</sup> century skills are essential in preschool through high school classrooms.

#### DEFINITIONS:

Similar to the process of mastering reading, writing, and speaking skills, honing one's ability to perform 21<sup>st</sup> century skills is a lifelong endeavor. 21<sup>st</sup> century skills differ from traditional content in that they are generally concept-driven and target HOW we learn and teach; therefore they are not meant to be viewed as "additional" content. The following descriptions illuminate possible behaviors (including PWR indicators) by which students can demonstrate growth toward mastery of each skill.

**Critical Thinking and Reasoning** may include (but are not limited to) these behaviors:

- Apply logical reasoning and analytical skills
- Collect and analyze quantitative and qualitative data and research
- Conduct research using acceptable research methods
- Construct clear, coherent, and persuasive arguments using research and text evidence
- Distinguish between correlation and causation of events
- Employ deductive and inductive reasoning
- Identify and define problems/conflicts and devise creative, rational, logical solutions
- Respond critically, pose higher-order investigative questions, and personally reflect
- Weigh different research approaches to determine appropriate application

**Information Literacy** may include (but are not limited to) these behaviors:

- Access informational texts in all academic disciplines
- Adhere to the ethical uses of information including appropriate citations
- Analyze primary and secondary sources
- Communicate sound reasoning using texts, graphics, and speech
- Curate information from multiple resources
- Evaluate and validate the credibility and relevance of information
- Explore divergent thinking and diverse points of view
- Integrate and apply appropriate technology to access and evaluate new information
- Interpret information critically to detect bias and/or purpose for a target audience
- Synthesize/converge evidence from multiple sources to strengthen arguments

**Collaboration** may include (but are not limited to) these behaviors:

- Balance individual agendas with the interests of the group
- Demonstrate leadership skills and the ability to work within a team
- Engage in productive debate related to content using research, text evidence, and opinion
- Foster a safe environment for discourse between and among your peers
- Plan and organize complex and multi-faceted group projects
- Provide constructive feedback to peers
- Recognize the value of cooperation for a common purpose/goal
- Respect the diversity of individuals, groups, and cultures
- Solve problems collectively and mediate conflicts
- Speak and listen to support understanding in the exchange of diverse ideas/perspectives
- Work effectively with others in a variety of groupings (e.g., one-on-one, small group, large groups)

**Self-Direction** may include (but are not limited to) these behaviors:

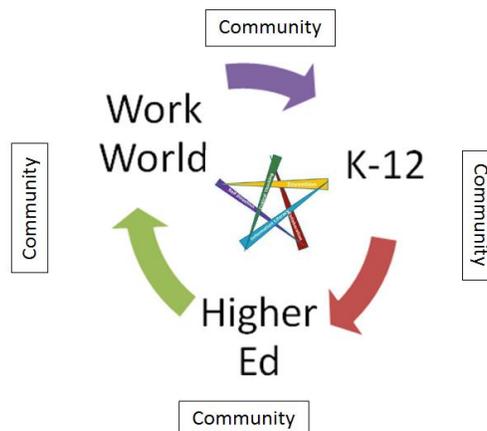
- Balance self-advocacy with the consideration of others
- Behave honestly and ethically
- Demonstrate persistence/perseverance
- Engage in self-discovery and life planning through exploration of college and career options
- Evince ownership of personal learning in a variety of ways (e.g., generate questions, design investigations, show pride in work, reflect on choices, evaluate outcomes, adapt/revise to foster growth)
- Increase self-efficacy to complete familiar and unfamiliar tasks
- Initiate learning and follow through independently
- Manage time effectively and plan, prioritize, and evaluate progress toward personal goals

**Invention** may include (but are not limited to) these behaviors:

- Create original works within and across disciplines (e.g., Mathematical models, Scientific Investigations, Visual/Perform Arts)
- Deconstruct, re-purpose, and integrate ideas or practices
- Demonstrate an openness to “thinking outside the box” Employ creativity and innovation
- Generate, implement, and evaluate new ideas and novel approaches
- Reinvent, redefine, and recreate existing designs, practices, and/or beliefs
- Take risks and learn from successes and failures

**21st Century Skills Cycle:** The influence of 21st century skills crosses all levels of education and society. Successful 21st century learners will be engaged in the interconnected cycle of improved educational experiences for future generations.

## DRAFT GRAPHIC IDEA



## IMPLEMENTATION RECOMMENDATIONS

There are numerous examples of 21<sup>st</sup> century skills benchmarks, and curriculum mapping documents available at the national and local school district level that may serve as a more complete road map to implementation in your school of district. Please see tools/resources section.

**1. Student Pathways.** These are suggested student pathways where students can demonstrate progress towards proficiency of 21<sup>st</sup> century skills. Districts may pick and choose any or all of these possible pathways with the understanding that these pathways are not just a checklist. Rather, there are meaningful ongoing assessments of the 21<sup>st</sup> century skills that accompany these pathways that districts articulate and that clearly show student growth. The recommended pathways are:

- Internships
- CTE Model (Career and Technical Education)
- Student Portfolios
- Project/Problem-Based Learning

Potential Pathways, based on future discussions

- Endorsed diploma – (?) TBD pending future Endorsed Diploma work
- ICAP – (?) – Is this a separate entity or a pathway
- Capstone(?)—Pending recommendations of how Capstone includes/measures 21<sup>st</sup> century skills

**2. Assessments.** 21<sup>st</sup> century assessments are still new and emerging, and they are very useful for teachers and students. These assessments help teachers to be more intentional about already-existing practice. This data is not about *content* measurement of understanding; rather they help measure progression of skill development. This involves modeling teaching, assessing, and most importantly, giving students feedback on 21<sup>st</sup> century skills. Available measurements are useful for formative purposes, but can be more difficult to use for accountability purposes. Please see sample rubrics in the Best Practices section.

**3. Professional Development.** Schools can take different roads to show student proficiency in 21<sup>st</sup> century skills. Consider these essential components:

- Collaborative **leadership** provides the opportunity to build a collective vision and commitment that enhances continuity.
- Develop an **action plan** and a thoughtful roll-out plan created through a collective process with all stakeholders.
- Practice **persistence and prioritization** Success takes time and commitment to strategic action plans, review, and adjustment.
- **Engage teachers** in the planning and roll-out, and ask them to help identify the tools and content, training, and support they will need to fully support their teaching and their students' learning.
- **Supplant, not supplement** - 21<sup>st</sup> century skills are not meant to be viewed as 'additional' content. Instead, successful professional development implementation focuses on strategies that help teachers change *how* they teach and *how* students learn.
- **Creativity and flexibility:** leaders and implementers need tap into the creative expertise of their fellow educators or peers and create professional development plans that offer flexibility, meet teachers where they are, and honor their different learning styles.

**As a result of this Professional Development, educators will:**

- Understand the need for change;
- Understand that teaching 21<sup>st</sup> century skills is not an "add-on" but rather a shift in teaching practice;
- Be able to design learning that integrates opportunities for students to learn and practice 21<sup>st</sup> century skills;
- Be able to implement strategies to model, teach, assess, and give students feedback on the 21<sup>st</sup> century skills;
- Acknowledge that transformational practice takes time, is a collaborative process that requires constructive risk-taking and feedback, and happens when it is focused on strategic areas of need.

## **FUTURE WORK**

**4. Benchmarks and Curriculum Matrix.** Work with CO stakeholders to create more specific 21st c. skills benchmarks and examples and curriculum matrix.

**5. Rubrics.** Create sample rubrics for each of the 21st century skills that detail the criteria for assessment.

## **KEY MESSAGES**

**Parents:** In the past thirty years, our world has shifted dramatically and the way that schools prepare their students for this changing, globally connected world, needs to stay ahead of this shift. Developing 21<sup>st</sup> Century competencies in students will provide them with the skills and knowledge to face this dynamic future.

**District Administrators and BOE:** While 21<sup>st</sup> Century skills may look unique to each district, 21<sup>st</sup> c. skills growth is a systematic and rigorous process that may include assessments, capstone projects, service learning experiences, or other demonstrations.

**Administrators:** School leaders realize that shifts in instructional practice take time. As such, administrators, with buy-in from their staffs, provide meaningful, engaging, and ongoing professional development opportunities to help their staffs develop and incorporate these practices into their individual curriculums.

**Teachers** - The 21<sup>st</sup> Century skills embedded in the Colorado Standards are not an add-on for the classroom teacher. They are the strategy for how students learn.

**Students** - By designing learning that provides opportunities to practice 21st century skills, students will find their school experience is more motivating and relevant to the world in which they live. They will be better prepared for higher education and/or entering the career field.

**Higher Education** - Development of 21<sup>st</sup> Century skills helps prepare students for the work and expectations for further education and beyond. For access to higher education, these skills illustrate a holistic learner who has developed real-world skill sets beyond academic competencies.

**Business community** - Teaching and assessing 21st century skills will address the deficiencies identified in the landmark study "[Are They Really Ready to Work: Employers Perspective on the Basic Knowledge of New Entrants to the 21st Century U.S. Workforce.](#)" (2006). Within the job market, 21<sup>st</sup> Century skills prepare graduates for working within group settings, solving unique problems, and integrating many disciplines into one area.

## **PROMISING PRACTICES**

Seeing is believing! The promising practices resources below offer an opportunity to see how individual schools and districts nationwide are using innovative strategies to integrate and assess 21st century skills.

- [P21 Exemplar Districts](#)
- [Technology Integration Matrix](#) - At-a-glance video examples of best practices
- [Council on 21st Century Learning Promising Practices Videos](#)
- [Next Generation Learning](#)
- Video clips demonstrating various 21st century skills: <https://www.youtube.com/watch?v=2MuGDMlbSso>
- Video clips demonstrating teacher collaboration: <https://www.youtube.com/watch?v=M-Kaz6LXu3Q>  
<https://www.youtube.com/watch?v=03RRmRPlixg>

### **21<sup>st</sup> century sample rubrics:**

- [21st Century Learning Objectives Rubrics by Dr. Kari Stubbs](#)
  - This PDF document contains rubrics that assess NETS, P21, and AASL 21st century standards. They can be used by any district regardless of which set of 21st century standards the district adopts.
  - These rubrics are general in nature and therefore can be used in every grade level.

- [EdLeader21 Rubrics to assess the 4 C's from the P21 Framework](#)\*\*Still in draft; permission needed
  - These rubrics were created around the 4 C's (creativity, communication, collaboration, and critical thinking) for grades K-2, 3-4, 5-6, 7-8, and 9-10 and 11-12.
- [Academy District 20 21st Century Skills Assessment Links](#)
- [Adams 12 Digital Literacy Skills](#) and [Adams 12 Rubric for Digital Literacy Skills](#) and [Inquiry Quest Rubrics](#)
  - Adams 12 School District has developed: a rubric to assess several strands of their digital literacy skills in grades 2, 5 and 8; a digital literacy skills matrix for each grade level

**Instructional Coaches** : Coaches can bring teams together in healthy ways, they can support teachers to increase their emotional resiliency, and they can facilitate systems change in a non-evaluative way. (See "[How Instructional Coaches Can Help Transform Schools.](#)") Adams 12 School District is piloting Digital Literacy Coaches in several schools. [http://www.adams12.org/programs/digital\\_literacy](http://www.adams12.org/programs/digital_literacy)

## TOOLS/RESOURCES

### **Standards and Benchmarks**

- [ISTE-NETS Performance Indicators by Grade Level](#) (for grade levels PK-2, 3-5, 6-8, and 9-12)
- [ISTE NETS \(2007\) for Students: Proficiency Rubrics for Grades 2, 5, 8 and 12](#)
- [P21 Framework](#) is a general set of standards, however they do provide 4th grade, 8th grade, and 12th grade performance indicators in the following curricular areas:
  - [21st Century Skills Math Map](#)
  - [21st Century Skills World Languages Map](#)
  - [21st Century Skills Art Map](#)
  - [21st Century Skills Geography Map](#)
  - [21st Century Skills Science Map](#)
  - [21st Century Skills Social Studies Map](#)
  - [21st Century Skills English Map](#)
- [AASL Standards for 21st Century Learners](#) (these are general standards)
- [Adams 12 Digital Literacy Skills](#)
- Microsoft Educator Network: [21st Century Learning Design](#)

### **Assessment Resources**

- Asia Society Global Cities Education Network/Rand Corporation's -[Measuring 21st Century - Competencies: Guidance for Educators](#)
- [Academy District 20 21st Century Skills Assessment Links](#)
- [EdLeader21 Rubrics to assess the 4 C's from the P21 Framework](#)
- [Adams 12 Rubric for Digital Literacy Skills](#) and [Adams 12 Inquiry Quest Rubrics](#)
- [21st Century Learning Objectives Rubrics by Dr. Kari Stubbs](#)
- [Intel Assessing Projects Database](#)
- [ISTE NETS \(2007\) for Students: Proficiency Rubrics for Grades 2, 5, 8 and 12](#)
- [Technology Integration Rubric](#)
- [21st Century Learning Design Rubrics](#)

### **Pathway Resources:**

Internships - Assessment Exemplars:

- [DSST Internship Performance Review Criteria](#)
- [Spring 2014 Sponsor Assessment of Intern Survey](#)
- [Shalom Assessment](#)
- [Smarts Program Post-Assessment Student](#)
- [Performance Review 2013 Grow Denver](#)

### Project Based Learning

- [Project Based Learning Resources](#) from Buck Institute (for teachers)

### Career and Technical Education

- [Renewing Career and Technical Education in Colorado](#)
- [Colorado Career and Technical Education Plan](#)

### Business needs of workers:

- [Topline report from Northeastern University](#)- *regarding business perceptions around graduate preparation for work after from college*
- [Advanced Manufacturing](#) Needs for Highly Talented Workers
- [Partnering with Community Based Organizations Overview](#)
- [College in Colorado](#) Portfolio Rubric
- [Are They Really Ready to Work? Employer's Perspectives on the Basic Knowledge of and applied skills of new entrants to the 21st Century U.S. Workforce](#)

### Student Portfolio

- [Student Portfolio Student Learning Goals Example](#)

### Professional Development Resources

- [St. Vrain Digital Learning Collaborative](#)
- [Link to Profession Development backwards plan model](#)
- [How Instructional Coaches Can Help Transform Schools](#)

### General Resources

- *Mindset* by Carol Dweck
- Microsoft Educator Network: [21st Century Learning Design](#)
- [St. Vrain Digital Learning Collaborative Rationale](#)
- "Highly Effective School Librarian" - video series
- [Council on 21st Century Learning Promising Practices Videos](#)
- [Next Generation Learning](#)