

STUDENTS
at the **CENTER**



Reflection Tool For Incorporating 21st Century Skills

An important dimension of student-centered work is to foster the nonacademic skill sets that support college and career readiness. These are variously referred to as “soft skills”, “essential skills,” noncognitive and metacognitive skills, and a variety of other terms. The Hub team recognizes that there already is great work surrounding these efforts, including EPIC’s [Four Keys to College and Career Readiness](#), the rubrics offered by the [Buck Institute for Education](#) and the [Essential Skills and Dispositions Developmental Frameworks for Collaboration, Creativity, and Self-Direction](#).

We designed our **Reflection Tool For Incorporating 21st Century Skills** to complement such efforts. The initial reason for developing the tool was to provide scaffolding techniques for community college faculty working with high school students who are developing their 21st century skills (collaboration, thinking strategically, etc) in a STEM context. Specifically, we were working with educators from [CTown Tech](#), an Information Technology pathway located at Charlestown High School in Boston, Ma. The tool is designed in a first-person format, articulating areas of growth in a language all parties can understand, so as to encourage personalized student-teacher dialogue about key competencies in computer science careers, and in alignment with the AP Computer Science principles.

As we worked on the tool and shared it with teachers across all disciplines, we found that it is generalizable to other types of courses and pathways as well. For example, it could be used in a variety of different subject area classes to build habits of student self-assessment over time, through student-teacher check-ins, or used during teacher collaboration times or teacher-to-teacher course observations to prompt discussions. We invite you to consider the recommendations for use, which were collected from educators, below.

Let us know how you’re using the tool (or ways to support your efforts) by connecting with the Students at the Center Hub team [here](#).

- The Students at the Center Hub Team

STRATEGIES FOR IMPLEMENTATION: Reflection Tool For Incorporating 21st Century Skills

- **Teacher-to-teacher collaboration:** Educators can use this tool during teacher-collaboration periods to prompt discussion and inform lesson planning, ensuring their individual teaching (and schools as a whole) supports students in developing 21st century skills and computational thinking strategies.
- **Student-teacher performance reviews:** Teachers can use this during check-ins with students to facilitate dialogue with students about their growth in these skills and strategies.
- **Student self-assessment:** After introducing the tool to a classroom, educators can build time periodically for students to reflect on areas of growth independently. For example, students can lead conversations with a teacher or mentor about where they believe they are improving, and what areas they need extra support.
- **Peer-to-peer assessment:** Students can discuss the categories amongst themselves in a group setting, determining where and when they are personally seeing growth in certain soft skills. Research ([link](#)) shows that student-centered approaches for assessment can be especially motivating for students, as it engages young people in their own learning progressions.
- **Internship/work-based learning performance reviews:** Schools providing their students with expanded learning opportunities can encourage employers/mentors to adopt this tool as a tool to define 21st century skills, and to document student growth during the learning opportunity. For example, employers or supervisors can crosswalk their existing “hard skill” assessments with this tool to see what areas may be going unnoticed or unacknowledged during their work-based experiences.
- **A “Get to Know My Students” activity:** Educators can introduce this tool as a self-reporting survey at the beginning of the school-year to gather informal baseline data on students that can set the tone for expectations in the classroom around 21st century skills and empower students to be aware of their needs and strengths. Additionally, this baseline information can inform choice in instructional strategies during lesson planning.
- **Deepening parent engagement & understanding:** Use this tool to build parent buy-in and understanding on what soft skills look like (and reflect on where their children might be on the continuum), and pair it with literature about why these skills are relevant to college, career, and civic readiness.

	Developing	To demonstrate competency, I need to:	Competent	To demonstrate consistency, I need to:	Shows consistency
Creativity: Generating New Ideas¹	I'm not ready to create my own ideas. I use the existing guidelines for the task, and I replicate the ideas and examples that are already there.		I am developing some of my own ideas; I'm still working within pre-set guidelines or examples but I am combining or changing some of the existing parts to reflect understanding.		I can use my imagination and creativity to develop new ideas that complete the task while reflecting an understanding of the assignment; that way, I am creating original work.
Thinking Strategically	I dive into the problem without first figuring out a strategy for how to solve.		I have a strategy for solving a problem and stick to it, even if it only works for part of the problem.		I always have a strategy, as well as a back-up strategy in case my first one doesn't work. My strategies are designed for the different elements of the problem.

¹ Adapted from Creativity and Innovation Rubric for PBL, © Buck Institute for Education, 2013; some reference to 2014 AP Computer Science Principles

<p>Able to be flexible</p>	<p>I make a plan and follow it. If it doesn't work, I will wait until someone can tell me what to do next. I don't understand how to vary my approach when teachers or group members ask me to.</p>		<p>While I still don't like it when my plan doesn't work, I am okay trying a different plan that someone suggests. I am open to changing my approach if my teacher or group asks me to.</p>		<p>To me, mistakes are opportunities. I am comfortable with trial and error: If my approach doesn't work, I figure out a different one. I can adjust my approach when requested, and for a variety of audiences and purposes.²</p>
<p>Applying What I Know</p>	<p>I see each task as a new task. I don't see how I can apply what I already know to solving the problem in this new assignment.</p>		<p>I'm beginning to see how what I already know can be used to help me solve the problem in this new assignment. I'm starting to see the connections between what I know and what I am trying to do or learn.</p>		<p>I always begin examining a problem by considering what I already know and how that will help me solve the problem in this new assignment. I can see the connections between what I know and what I am trying to do or learn.</p>

² Deeper Learning Competency and Proficiency Indicators, JFF

Taking Initiative When Approaching Tasks	I am comfortable trying a task or project on my own only if someone shows me an example of exactly what the result is supposed to be.		I will attempt a task or project on my own if I don't know what the result is supposed to be, but only if someone gives me feedback after each attempt.		I am comfortable attempting a task or project when the outcome is not completely known. I will come up with a few outcomes and then explain which one is the best, in my opinion.
Valuing Feedback	I know others want to help me by giving me feedback or critiques, but I don't see how that feedback will help me to revise my work. ³		I see how feedback helps me to improve my work. If someone offers it to me, I will consider it, and may use her or his feedback and critique to revise the assignment. I don't seek out feedback, though. ⁴		I seek out and consider feedback from reliable sources and respond to questions, critiques, and suggestions to improve my course assignments. ⁵

³ Creativity and Innovation Rubric for PBL, Buck Institute for Education, 2013

⁴ Creativity and Innovation Rubric for PBL, Buck Institute for Education, 2013

⁵ Deeper Learning Competency and Proficiency Indicators, JFF

<p>Owning my learning</p>	<p>I rely on my teacher to tell me if my work is correct.</p>		<p>I usually assess my work process and quality along the way rather than waiting until I have finished my project, but not always. I'm beginning to reflect on my own learning rather than relying on someone to tell me what to do or how to do it.</p>		<p>I regularly assess the quality of my work. I recognize what I don't know or understand about my work, and seek appropriate help independently. I reflect on my process and the quality of my work and plan next steps so I can continue to master the content.⁶</p>
<p>Demonstrating Effective Communication</p>	<p>I can give a general explanation of my work that includes some of the vocabulary terms related to the assignment or lesson. I don't explain why I solved the problem the way I did. I don't include any references to back up my explanation.</p>		<p>I think my explanations are pretty clear, and I incorporate the vocabulary terms that we are learning. I can explain the steps I took, but I don't always explain why I took those steps. I'm starting to back up my explanations with references, but I'm not doing that all the time.</p>		<p>I can give a very clear explanation of my work, often using the precise vocabulary terminology related to the lesson or assignment. I always include details about how I solved the problem or completed the task and why I made the decisions I made. I always give specific references for my explanations.</p>

⁶ Deeper Learning Competency and Proficiency Indicators, JFF

<p>Engaging in Collaboration⁷</p>	<p>I don't see the value of working in a collaborative group. I don't understand how to collaborate if I am to complete my project and get a good grade.</p>		<p>I'm starting to understand the value of working collaboratively with the students in my group. I think our project will be better than it would be if we all worked alone. I'm starting to ask group members for their ideas and for feedback about my work. I'm even sharing feedback with other students when they ask for it. I'm pretty good at completing my work on time.</p>		<p>I consistently work collaboratively with the members of my group, seeking and building on a range of ideas from them so that we can achieve shared goals and complete assignments on time. I share my feedback with them and I welcome their feedback. I encourage other group members to share their ideas. I support each member of my collaborative team through the quality and timeliness of my work.</p>
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⁷ Initiating, developing, and demonstrating the common instructional framework: for instructional coaches and administrators, JFF