

EXECUTIVE SUMMARY

The digital age is ushering in a competitive global economy, shifting the need for employees with sophisticated and refined competencies. Skills—whether labeled 21st century, generalizable, transferable, employable, or cross-cutting—are therefore receiving much attention in higher education and surrounding policy conversations as key learning outcomes for both 2 and 4-year institutions alike. Below, figure 1 is presented to clarify and categorize labels associated with 21st century skills, with some corresponding example constructs.

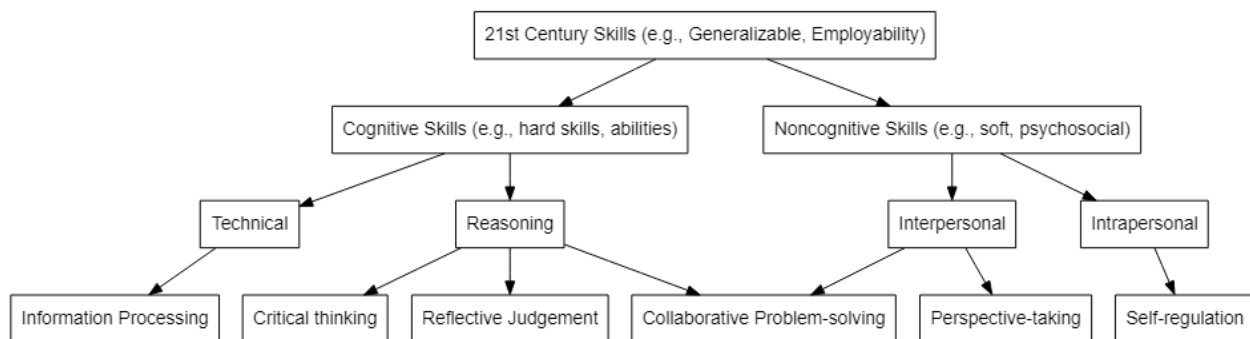


Figure 1. Structure of 21st Century Skills with examples (bottom row)

However, despite their growing popularity, ambiguity surrounds the meaning of these terms across educational and workforce spheres. The current literature review attempts to shed light on these issues by examining: (1) Is there evidence of a disconnect—in terms of language usage—in the way higher education (scholars, administrators, policymakers) and employers define and reference key competencies, such as critical thinking, etc.? (2) What evidence is there of a unified framework that seeks to move beyond traditional academic metrics, and more directly communicate the skills students have acquired to employers?

RQ1: Evidence of a common language

There is mixed evidence of a common language for skills and competencies across higher education and employers, depending on the level at which evidence is conceptualized. *Word Usage*. There is much convergence in the actual terms used across employers and scholars, with the same skills emphasized among different groups and entities. An important study conducted by Vista (2020) found that, while there are subtle differences in the most important skills needed to transition from job to job within occupational domains, there was much convergence in the top-rated skills across domains as dissimilar as architecture and engineering, social sciences, and procedural occupations. *Word Meaning*. While many attributes like emotional intelligence, interpersonal skills, curiosity, conscientiousness, and critical thinking show stable positive correlations with work-based outcomes, most associations are marginal.

- **Funders could provide and direct resources in the following ways:**
 - Fund more research predicting work-based metrics via academic developed or standardized test instruments.
 - Additionally, a more direct means of establishing confidence in the *meaning* of terms used is to study the convergence between standardized assessments measuring 21st century skills and employer ratings of the same employees on the same constructs.

RQ2: Unifying Frameworks

There is also substantial evidence for unifying frameworks in higher education. However, some are a bit dated (ETS synthesis), while others don't provide details for clear signaling to employers (e.g., Employability Skills Framework). While ETS has many products used in academic research to assess skills, and the Employability Skills Framework has focused broader attention on skill development, there is no clear or systematic or widespread implementation and uptake of these frameworks.

The QA Commons EEQs is the most robust, unified framework with hands-on strategies to enhance the assessment and development of 21st century skills across four-year and two-year institutions. The QA Commons has currently implemented a pilot study aimed to: (a) Work with stakeholders to transform programs of study to incorporate, measure, and assess key 21st century skills at both the program and course levels; (b) Identify promising practices institutions can incorporate which are informed by employers' input; and (c) Develop avenues to communicate the skills learned by students to employers. Fourteen post-secondary institutions across the United States, representing 27 different degree programs including accounting, humanities, STEM, social science, professional, and technical educational programs participated in the pilot. Participating institutions include both public, private, community college, and non-profit schools. Currently research is needed to find rigorous data.

- **Funders could provide and direct resources in the following ways:**
 - Fund research aimed at comparing students who have graduated from participating programs against those that haven't in skill growth and labor market outcomes
 - Provide incentives for more institutions and programs to participate in the EEQ initiative
 - Provide incentives for employers to consider EEQ's in the hiring of job candidates

It's unclear how other notable frameworks that emphasis personal development and holistic education and flourishing serve to mitigate the skills gap and help underprivileged populations obtain gainful employment, such as the Cultural Capitol and MUST frameworks. The aim of the MUST framework is geared toward improving the educational experiences of undergraduates, determined by the growth in a range of skills and abilities. What is clear, however, is that there is no more direct signal of students' competencies to employers than that provided by work colleges. Here, work and education are one, and the promise of these schools is only beginning to echo across the postsecondary landscape. While work colleges have been in existence for nearly two centuries, their focus on work ethic and skill building is providing a fresh discussion for higher education's potential.

- **Funders could provide and direct resources in the following ways:**
 - Fund research aimed at comparing the students who have graduated from work colleges against those that haven't in skill growth and labor market outcomes
 - Incentivize work colleges to collect and report skill growth data across programs of study

Proposals for the Future

With all these assessment plans, frameworks, and new college models, it's important to get a clear inventory of current gaps that may obviate the intentions of these efforts. First, there is virtually no work that connects and synthesizes theories of skill development and university education in a manner that makes precise predictions. Second, a related point to theory is the actual change agent: considering pedagogical approaches to develop 21st century skills. Third, and finally, these efforts must consider measurement theory and design. The true extent of a common language—in word or meaning—cannot be known without valid measures.