21st Century Skills

Making Student Achievement Public in the Digital Age
By Dan Cogan-Drew

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If you've been following public discourse in education over the last couple of years, you have likely witnessed the emergence of a new, ubiquitous catch phrase: "21st century skills."

screenshot

After some time and considerable debate within and among organizations like ISTE/NETS, enGauge, and The Partnership for 21st Century Skills, a general consensus has emerged on definitions of the term. Many for-profit and not-for-profit organizations advertise their curricula to potential school and district clients, touting the alignment with 21st century skills with whatever they are pitching. The vast majority of these, from the traditional "drill and kill" to the more reformed, constructivist and project-based approaches, have adopted the rhetoric (if not the practice) of the new millennium.

What is still lacking in the landscape of 21st century education, however, are examples of 21st century student work.

While there is no shortage of discourse around the term or end to the lists qualifying the kind of work that students need to be engaged in as part of their 21st century education, there are precious few examples of actual 21st century work.

21st Century Skills
At a moment when there is great national enthusiasm for 21st century skills, this is a tremendous vacancy and impediment to the efforts of those who are truly engaged in this work. Emphasis at this point is weighted heavily on the input, much less so on the output. Goals have been identified, processes articulated. But we have yet to see much evidence of interest in marrying the assessment criteria with actual examples of real work by students.

Effective presenters and change agents often begin by sharing student work and then tracing their path backward to explain the origin of the work, the methods, pedagogy and processes they used to facilitate its creation. They do this because these presenters know that until they have convinced their audience—who are often rightfully skeptical of the latest fads—that the caliber of work produced by their students demonstrates sufficient rigor, differentiation and engagement, any argument they make about their methods is moot.

Critical educators prefer to work backward from the product to learn how it was produced, rather than listen to someone convince them of the validity of their methods before showing what, if anything, was achieved using those methods. (All too often, the evidence offered is a statistical report on the upward trends of test scores, without consideration of other equally valid measures.)

Once educators see something they like, their question moves from, "Why would I want my students to do

that?" to "How can I get my students to do that?" And it is at that point that the opportunity for a new conversation presents itself.

This is the launch pad moment for engaging teachers and administrators in meaningful conversation about deep change in curriculum and pedagogy. We currently risk failing to launch that conversation because we lack a thorough and wide-ranging library of examples and case studies of 21st century learning and teaching.

The argument here is not for a single, unifying, national library of work by 21st century students. Just the opposite. The framers and thought leaders have accomplished the work of cohering the interests of business, childhood and young adult education, and higher education around a comprehensive and well articulated set of goals.

By contrast, the work of local education agencies and school districts should be to individualize the representations of this student work, customize and modify, reinterpret these goals for themselves on the local level, demonstrating for a primarily local audience how their students are achieving 21st century skills. The framework is universal; the library is local.

This article shares an example of one such "local library" that was built to fill this gap, and to unify a (real and virtual) community around the task of examining and reflecting on what 21st century students know and are able to do.

The purpose of this library of student work (known within the Program as the "student work portal") was to address several significant needs within and beyond the program. If you are already familiar with the use of portfolios in student assessment, you will recognize many of these same needs in your own experience.

Recognition
Much of the work that our students accomplish is not recognized in test scores (although we are studying the effects of our course content and methodology on standardized test performance. This data, when it becomes available, should not overshadow other perspectives on student achievement.) School and program or department portfolios are an important way to make student work public, helping to round out the picture of what students known and can do, a picture that is otherwise frequently overshadowed by all of the testing numbers that monopolize public discourse about student achievement.

Assessment
Just as the Partnership for 21st Century Skills has brought together the interests of childhood and young adult education (K-12), business, and higher education, so too has our program united these partners in support of our courses. With their investment of resources in the creation and implementation of our programs, these partners deserve to share in the discussion around what has been produced by their efforts.

With that in mind, we recognized that the portfolio should do more than simply present student work; it should correlate it to our program's core values and skills development so that members of the greater learning community can make the connection between the values and the evidence of these in the process and product.

Engagement
As a public forum for this discussion, the portfolio affords community members, alongside the students and teachers themselves, the opportunity to partake in the conversation. Each of the pages in our work portal, therefore, has a comment area, open to anyone to read or add a comment. Beginning first with students and their teachers, we actively invite parents, faculty, and industry mentors to post remarks on the extent of the correlation they perceive between the type and quality of the student work and their own experience with comparable work either in the academy or in the working world.

Reflection

Taken as a whole, this body of work provides the program directors and curriculum developers with some perspective on the achievement of our students and the influence of the coursework on their thinking. As we listen in on the public discussion of our community members around the work of our students, we are taking the opportunity to revisit our goals, assessments, and strategies with an eye toward making sure that they remain aligned to student outcomes.

Intellectual Growth

Just as effective change agents need examples of success in order to substantiate their claims and reinforce their arguments, so too do we need these examples in our professional development work with new and returning teachers.

In preparation for the start of the school year, each summer our more than 60 teachers convene in three- and four-day content and pedagogy institutes. Examination of and reflection on student work plays an increasingly important role in these sessions.

Example of Public Portfolios of Student Works

A great deal of the work produced by our students is digital. Students are creating video games, podcasts, video advertisements, video public service announcements, short films, logos, e-commerce web sites, science research web sites, white papers, business plans, research proposals, and more. With all this digital work already made public via the many for-profit, and not-for-profit web sites created by our students, why not take advantage of our capacity to widen the circle of audience-participants?

The Connecticut Career Choices (CCC) Program public portfolio currently contains more than 100 pieces of work by its students.
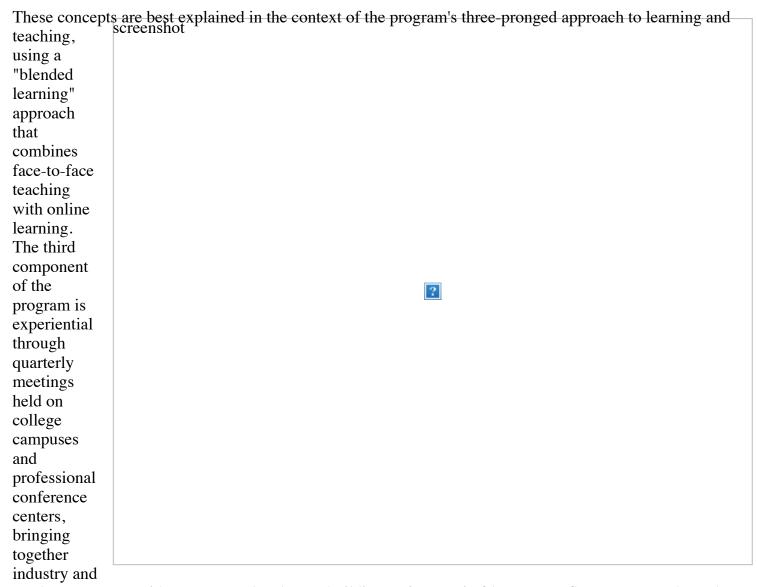
The CCC is a workforce initiative implemented by the Center for 21st Century Skills @ EDUCATION CONNECTION and the Battelle Technology Partnership Practice. The statewide program currently reaches more than 1,200 students in rural, suburban, and urban public high schools, averaging 40 percent participation by traditionally underrepresented ethnic and racial populations.

Using a web-based development software package known as Expression Engine, the portfolio treats a single piece of student work as a blog entry, with two categories of tags identifying the 21st century skills evidenced in the work.

The first category is a broad, original, six-item consensus of ISTE, enGauage, and Partnership skills designed to make the entire library searchable along these axes. For instance, a user interested in seeing examples of students demonstrating the ability to "Community information clearly and effectively using a variety of tools/media in varied contexts for a variety of purposes," can click on this skill definition and sort the work across all the years, schools, courses, and media types to review work tagged with this attribute.

The second category is a more granular articulation of the skills using the language of the Partnership for 21st Century Skills [PDF]. In addition to the 21st century skill(s) in evidence, each piece of student work is tagged by a series of other identifiers, including the subject discipline (science, technology, business, etc.) of the course, the "company name" of the student-formed company producing the work (the governing metaphor for our program is of student-run companies), the media type (computer game, video, etc.), and so forth.

The CCC student work portal is meaningful because it lives at the center of a robust and sustained effort to develop 21st century skills in Connecticut's students. A cornerstone of the philosophy of the CCC program is an emphasis on rigor, relevance, and relationships—similar to the approach endorsed by the Bill and Melinda Gates Foundation, though the definitions and implementation are unique to CCC.

These concepts are best explained in the context of the program's three-pronged approach to learning and teaching, using a "blended learning" approach that combines face-to-face teaching with online learning. The third component of the program is experiential through quarterly meetings held on college campuses and professional conference centers, bringing together industry and academy mentors with young people who are building an interest in 21st century STEM careers through challenged-based, year-long curricula.

The standards-based curricula maintain the emphasis on academic rigor; the challenge-based and applied nature of the program establishes and sustains a high level of student engagement; finally, the repositioning of the teacher to serve as coach, or "guide on the side," as an advisor and co-investigator who supports networking and apprenticeship with industry mentors reinforces the value of organic and purposeful relationships in support of the learning experience.

As we advance the development of our pilot [Academy of Digital Arts and Sciences program](#) throughout Connecticut, the CCC program will use the student work portal to broaden its consideration of student achievement to include process and not only product. To date the portal demonstrates the success we have had in aligning our six unified standards of 21st century skills to the end products of our students. What remains difficult to identify, however, has been the evidence of process that is so vital to substantiating our claims that our students "[v]alue and demonstrate cultural understanding, personal responsibility character and ethical behavior."

There is little question that this skill belongs in short list of 21st century skills, but precisely what form would evidence of the practice take? We have recently included in our curricula a series of process reflection assignments in video form, asking students to record and share these videos via our [student film site](#). Once collected, reviewed, and published, these testimonials and field reports by students about their own trials and

successes while engaged in the rigorous team and challenge-based work of their projects, will serve as evidence and inspiration for the wider community of more than 1200 CCC students and teachers.

Though our work goes back to 2003, in this respect it has only just begun. The student portal figures to feature prominently in our future efforts to document and share.

About the Author
Dan Cogan-Drew is the director of programs in The Center for 21st Century Skills @ EDUCATION CONNECTION. In addition to management and administrative responsibilities across the Digital Arts and Sciences Academy curriculum, Dan co-develops and leads the programs in IT Research & Development and E-Commerce Entrepreneurship. He holds an MA in Educational Studies from Tufts, an MA in English Literature from Brown University, and a BA in English and Spanish from Wesleyan University. He believes in the value of offering cognitive apprenticeships that facilitate students learning to think like the experts in that discipline and is particularly persuaded by the thinking of the Coalition of Essential Schools and Expeditionary Learning Outward.