

Digital Badges and Portfolios: A Personalized Approach to Competency-Based Learning

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Abstract

Digital badges and portfolios can help students demonstrate their achievements and show their personal strengths. This article discusses three areas of implementation that help schools use badges and portfolios to show competencies and personalization. First, schools need to *define their vision* of what all students should know and be able to do, and how students can show their personal interests. Second, students can *collect evidence*, linking the work they do (in or out of school) with the school's vision. Third, faculty can *determine competency* by improving their assessment practices with tools such as common rubrics and calibration exercises.

Digital badges and portfolios provide a strategy for schools to tackle two initiatives simultaneously: personalization and competency-based learning. By using technology to collect samples of their work, students can show how they are meeting expectations. At the same time, the student's work can provide insight into a student's personal strengths. This article discusses some of the essential elements schools need to address to implement digital portfolios successfully.

The initial research on digital portfolios (Niguidula, 1993) examined how students could actually put together a collection of their best work. At the time, schools were still in early stages of implementing any kind of educational technology; this was the era of "Net Days," when there was a major effort to bring Internet connectivity to school buildings (Mueller, 1996). For many schools, both the "digital" and the "portfolio" represented challenges. Still, many schools had some success – meaning as an initiative, students and teachers were able to use the portfolios for an educational goal. What helped is that those schools addressed a set of essential questions, including:

- Vision: What should a student know and be able to do?
- Assessment: How can students demonstrate the school vision?
- Technology: What hardware, software, networking will our school need? Who will support the system?
- Logistics: How will students enter their work?
- Culture: Is the school used to discussing student work? (Niguidula, 1997)

In the 20-plus years since that initial work, the technology available in schools has made huge leaps in both quality and quantity; dial-up modems have given way to ubiquitous wi-fi. Yet, these essential questions still seem to hold up; as schools discuss the work in implementing portfolios today, the signs of success echo those original questions.

From observing schools work with portfolios and (later) badges, some schools are able to make the portfolios an inherent part of the culture (what Sarason (1996) would call a "regularity" of the school day), while others only use portfolios on a superficial level and abandon the process after a short time. The remainder of this article will address three elements for what makes a digital portfolio a promising practice: **defining the vision**, **collecting evidence**, and **determining competency**.

Defining the Vision

Defining what a student should know and be able to do has been at the heart of many education initiatives over the last two decades. Subject-area organizations (such as the National Council of Teachers of Mathematics (2000)) and state governments have established lists of standards, culminating, for many states, in the adoption of the Common Core (National Governors Association, 2010). Schools looking to receive accreditation from the New England Association of Schools and Colleges (2011) needed to define "challenging and measurable 21st century learning expectations" for all of their students.

Digital portfolios provide the opportunity for students to explicitly link their classroom assignments and other work to those competencies. For example, Ponaganset High School (the

public high school for the Foster-Glocester School District in Rhode Island), created the “Ponaganset Graduation Expectations (PGEs)” as part of its NEASC accreditation.

When students first learn about the digital portfolio, they see the chart shown in Figure 1. The first column shows the list of PGEs; students know that to graduate, they will have to demonstrate each of these skills in Writing, Reading, Civics, and so on. The second column defines the requirements. This shows the number of “proficient” entries the student needs to submit in the portfolio by the time he or she graduates. (We’ll get to the definition of “proficient” in the next section.

Performance Graduation Expectations (PGE)	Number of Entries to Complete Badge
W (Writing): The student writes effectively for a variety of purposes and audiences.	12
R (Reading): The student reads literary text, informational text, and other media for a variety of purposes.	3
S (Speaking): The student speaks, presents and converses well.	7
PS (Problem Solving): The student solves problems with creative and critical thinking skills.	6
RF (Reflecting): The student effectively reflects on his/her thinking and / or performance.	5
M (Mathematics): The student utilizes mathematics to solve relevant (situational) problems.	6
C (Civics): The student displays civic and social responsibility and initiative.	1
PR: The student demonstrates personal responsibility.	(Project)
T (Technology): The student applies technology as a tool to gather, analyze, organize and present information.	(Portfolio)

Figure 1. *High School Expectations, Ponaganset High School*

This chart concretizes the school’s vision. Students know that they need to complete each of the PGEs; the number provides a specific goal to reach. Using the portfolio turns a potentially abstract list of expectations into a tangible set of tasks to achieve.

While Ponaganset has been tying its expectations to a portfolio since 2003 (when the Rhode Island Department of Education began requiring schools to include a “proficiency-based graduation requirement” for all high school graduates), it has more recently introduced the idea of “digital badges.” The badges provide a visual representation of the student’s achievements

(Niguidula, 2019). For example, a student who has completed 6 of the 12 entries required for the writing badge will see a badge that is half-full.

Digital badges allow schools to expand their vision. In our work with schools, we have created a software platform called *Richer Picture*. Within this web site, schools can define two sets of badges: *required* badges for the competencies that all students should demonstrate, and *personal* badges that represent each student's particular interests. In the Ponaganset case, many students are enrolled in "career pathways," such as Animal / Plant Science, Pre-Engineering or Materials and Manufacturing. If a student decides to pursue one of those pathways, this can be represented as one of the student's personal badges. At other schools, personal badges can include other academic areas that aren't in the "required" list (such as world languages or business); areas of interest that the school offers in co-curricular areas (such as clubs or athletics); areas of interest that the student pursues outside of school altogether (such as martial arts or community service organizations); or special needs areas. The idea is that the student's set of badges represents the whole child. The combination of the required badges and the personal badges means that all students will have to gain a common set of knowledge and skills, but will also allow each student to demonstrate what is important to him or her.

Collecting Evidence

Once the badges are listed, schools need to figure out: How will students earn the badges? Each badge has a specific set of requirements, reflecting the competencies; for example, to earn a writing badge, students might need to submit at least one sample of each specific genre (narrative, persuasive, fiction, and so on). Students earn badges by presenting evidence of their achievements. While many of these tasks can come from classroom assignments, schools are allowing for a wider range of artifacts, from online and after-school activities to independent projects.

Many schools begin the work with digital portfolios by asking teachers to designate certain assignments for the portfolio. At the high school level, a teacher might identify 3 or 4 assignments from throughout the year that would be good for portfolio submission. At the elementary level, teachers might have specific benchmarks, such as recording a student's independent reading level at the end of each quarter.

This certainly works well as a way to get started; all of the teachers can participate using something that they are already doing. It also engages all of the teachers to make an explicit link between their assignments and the competencies. (Teachers can say to the students, "If you do well on this podcast task, you will have demonstrated the competencies for both your Speaking and Technology badges.")

The downside of this approach, though, is that it limits the student choice. All of the student portfolios (at least in terms of fulfilling the required elements) will start to look the same; when looking across multiple students, a reviewer will see the same lab experiment, the same response to *Romeo and Juliet*, the same still life drawing. Of course, each student's response will be his or her own – but students may want to select something different. For example, at one Rhode Island school, students were presenting their portfolios during an end-year review. Each student sat with two teachers (or administrators); typically, the student knew at least one of the teachers. During the review, students were asked to discuss their best pieces of writing.

While most students selected classroom assignments, one student included a story written outside of class. This particular piece was an example of “fan fiction” – a story that takes place in an established world (such as the universe of *Star Wars* or *Lord of the Rings*), and may use some of the same characters, but is an original tale. The teachers noted that this piece showed more passion than the classroom assignments, and demonstrated (at least) as much technical skill. The discussion during the review then became, how can the student take the effort that clearly went into this personal piece and apply it to the students’ other work?

This has led schools to expand their definitions of what kind of work is acceptable; the portfolios that students submit for the badge need to provide some opportunity for students to express their interests -not just in the personal badges, but also in the required set. To complete a badge, students might submit science fair projects, logs of community service hours, evidence of their activities outside of school, work they do on their own (such as say, their own sculpture for an art badge or a model rocket for a science badge) or certificates and badges they have earned through another organization.

Determining Competency

One essential question that has carried through for all of the years deals with assessment: How do we decide what’s good – or good enough? Going back to the discussion about defining the vision, Ponaganset High School faculty had to figure out how to define “proficient” entries. Schools need to come to a shared understanding of what it means to earn the badges – and thus, need strategies to make assessment more consistent. This means that assessment is no longer solely an individual exercise, but a conversation among colleagues and students about the quality of student work.

One strategy to provide consistency is to use school wide rubrics. Many schools in New England, as part of the NEASC accreditation process, generated school wide rubrics to go along with the expectations. The digital badges can be linked to those school wide rubrics.

Let’s consider this in practical terms. Ponaganset broke down its writing expectation into 6 “learner outcomes,” representing different genres of writing (informational, narrative, reflective, and so on). It has similar learner outcomes for each of the PGEs. Now, for each learner outcome, the school has generated a schoolwide rubric; thus, for each submission of informational writing, teachers will use the same rubric. A score of “3” or better (on a 4-point rubric) means that the work is proficient. If a particular student entry addresses more than one of the learner outcomes, then the teacher can provide a score on each rubric. For example, a civics assignment could be assessed where one row is the schoolwide “informational writing” rubric and a second row is the schoolwide “civics” rubric. The teacher can then determine if the student work is proficient in informational writing, civics, or both.

To make the school wide rubrics effective, faculty need to engage in conversation. First, faculty can come together to design the rubrics in the first place. As they identify what criteria is important, and determine what indicators will denote that a work has reached “competency,” faculty are engaged in deep conversations around the nature of their disciplines. Since this is a schoolwide rubric, it means that the rubric has to be usable by multiple teachers – potentially across different grade levels and different departments. The conversation about what will be acceptable is what can help a school, as a whole, define its expectations.

To help further deepen the conversation, schools can use a “calibration” exercise. There are many versions of this process (see, for example, Brownstein and Chapin, 2018); in essence, a group of teachers takes a few samples of student work, and each teacher assesses all of the samples using the same rubric. The key to the calibration process is to figure out where the group agrees and disagrees. If one teacher thinks that a student entry should get a score of “2” on the rubric, and another teacher gives the same entry a score of “4,” then that needs to be figured out. Is there a common understanding of the rubric’s language? Are there different pieces of evidence within the student work that leads to the different scores? Do teachers simply have different expectations of how students will perform? Resolving these conversations will help faculty gain a more common mental model of what it means to be proficient, and thus provide more consistent assessment.

These conversations become even more critical as schools allow for more personalized portfolios and badges. Students may submit different entries for each of the competencies. One student’s best example of report writing might come from a US history research paper; another student’s might be a science lab report. Can we use the same rubric for both types of entries? Can we get agreement on the faculty that this entry has demonstrated the competency, and this other entry has not? Calibration exercises provide the venue for this type of conversation.

For schools that want to pursue digital badges and portfolios, the key is not found in the technology; rather, it is a focus on the purpose that you want the portfolios to serve. The dialog that occurs between students and teachers as the portfolios are reviewed, or that takes place among faculty as they debate what level of work will earn a badge, is what is important. These conversations will ultimately determine if a school can define – and then achieve – its vision.

References

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