

# Solution Brief

## Efficacy in Digital Learning and Innovation: A Central and Vital Component

by Eric C. Sheninger, Senior Fellow, ICLE

From increased access and limitless information to the dynamic nature of *what* and *how* students are learning, technology is at the heart of a deep transformation in education that is remaking our schools, teachers, and students. It's not hard to generally intuit or broadly point to ways in which digital tools and applications are improving education. However, in order to truly grasp the digital transformation, we need to be able to assess and catalogue the impact in ways we can all understand and apply. We must do more than simply tell and claim that improvement is occurring because of digital learning—we need to *show* it.

As leaders, we need to be able to justify our choices and decisions in understandable ways to all of our constituents, but perhaps first and foremost to students—those doing the work of learning. However tempting it is to fall back on statements and claims, in order to support the *purposeful* use of technology and innovative practices, we have to be able to illustrate how effective these strategies are at improving learning in explicit and measurable terms.

### What Is Efficacy and Why Does It Play Such an Essential Role?

Efficacy, the ability to produce a desired or intended result, is vital to the deep implementation of any digital learning tool or approach. Efficacy has to be part of our daily vocabulary and practice. “To what degree have I achieved desired outcomes and/or goals?” must be a guiding question for any digital application in the learning space. Only when the responses to this question are confidently established and articulated and then held front and center can we solidify the use of technology as an established practice, not just a frill or add-on.

### The Journey to Efficacy

Knowing what efficacy *is* is one thing; actually building pathways to it is quite another. The foundation of efficacy must be comprised of 1) the articulation and presence of the intended goals and 2) a strong pedagogical foundation. Without these two essential foundation pieces in place, the addition of new technology or ideas will be unlikely to result in achieving efficacy.



**ERIC C. SHENINGER**  
Senior Fellow, ICLE  
Expertise: Digital Leadership & Learning  
@e\_sheninger

#### ef·fi·ca·cy

/ˈefəkəsē/

*noun*

the ability to produce a desired or intended result.  
“there is little information on the efficacy of this treatment”

*synonyms:* effectiveness, success, productiveness, potency, power

## What Tools Can Be Used to Define Goals and Assure Pedagogical Strength?

The [Rigor/Relevance Framework](#)<sup>®</sup> provides schools and educators with checks and balances by providing a common language for all, creating a culture around a common vision, and establishing a critical lens through which to examine curriculum, instruction, and assessment. It represents a means to [support](#) innovative learning and digital practices. Specifically, the description of Quad D™ learning defines what conceptual mastery actually looks like: students have the competence to think in complex ways and to apply their knowledge and skills they have acquired. Even when confronted with perplexing unknowns, students are able to use extensive knowledge and skill to create solutions and take action, refining those skills and knowledge. Further, the Rigor/Relevance Framework applies across the learning culture because it emphasizes the importance of maintaining a strong pedagogical foundation while helping to move practice from isolated pockets of excellence to elements that can be scaled systemically throughout the learning culture. It is also a useful tool for evaluating and reflecting on teaching and learning to make strides toward continuous improvement.

Once an overall vision for digital learning is firmly in place, it's time to work on the structures and supports to ensure success. Continually revisit your foundation in efficacy: not simply *why* you are using a digital tool, but *how* you're using it and *what* you hope to achieve in its application. Determining whether technology or innovative practices, in general, [are effective](#) matters. There are five key practices essential to putting your classroom, school, district, or organization on the pathway to digital efficacy.

### 1. Defining Essential Questions

Essential questions—sometimes called “guiding questions”—provide context for where we want to go, how you'll get there, and whether or not you've achieved success. Having more questions than answers is a natural part of the initial change process. Over time, however, concrete answers can illustrate that efficacy in digital learning has been achieved in some form or another. Consider how you might respond to the following questions:

- What evidence do we have or can we get to demonstrate the impact of technology on school culture?
- How are we making learning relevant for our students?
- How do we implement and support [rigorous](#) and relevant learning tasks that help students become Future Ready?
- What is required to create spaces that model real-world environments and learning opportunities?
- What observable evidence can be used to measure the effect technology is having on student learning and achievement?
- How can targeted feedback be provided to our teachers and students, so that technology can enhance learning?

### 2. Knowing and Applying Research

Educational research provides us with useful baselines as to what has been found to really work when it comes to student learning. It's up to us as educators to sift through and then align the best and most practical studies out there to support the need to transform learning in the digital age. We can look to the past to inform current practice. For example, so many of us are proponents of student ownership and project-based and collaborative learning. Not only do digital tools support and enhance all of these, but [research](#) from John Dewey, Lev Vygotsky, Jean Piaget, Jerome Bruner, Seymour Papert, and Benjamin Bloom, among others, provides validation. Additionally, Linda Darling-Hammond, in her [research](#), found that technology can have the most impact on our at-risk learners when it is used to support interactive learning and exploration and creation rather than to “drill and kill,” and is constituted of a balanced blend of teachers and technology. Finally, the comprehensive analysis by John Hattie on [effect size](#) lists the most effective instructional strategies

that improve student learning outcomes, all of which can be applied to digital learning. If efficacy is the goal, embracing a scholarly mindset to inform and influence our work—not drive it—is critical. My book, [Learning Transformed](#), co-authored with Tom Murray, provides a sound research base that supports digital learning and the embracement of innovative practices.

### **3. Staying Practical**

Practicality underpins everything we do. Without it, the drive to implement new ideas and practices can wane or never materialize. What we do and how we think about what we do has to align to the demands—and at times the constraints—of our jobs as educators, including preparing students for success on standardized tests. The creation of rigorous digital performance tasks that are aligned to standards and the scope and sequence found in the curriculum is our challenge. All good performance tasks include some form of assessment, either formative or summative, that provides the learner and educator with valuable information on standard and outcome attainment.

The Rigor/Relevance Framework assists in creating performance tasks that engage learners in critical thinking and problem solving while applying what they have learned in meaningful ways. There is also natural alignment to incorporating student agency. This is exactly what so many educational practitioners and scholars are championing. For example, my colleague [Weston Kieschnick](#) has created a [process](#) that combines research and the practical aspect creating performance tasks. Teachers can use this process to develop a rigorous performance task that leverages technology for real-world relevance.

### **4. Gathering Evidence and Maintaining Accountability**

Evidence and accountability are a part of every profession and are becoming increasingly relevant in the discourses of education—not only because both are instrumental to showing efficacy in our work, but also to scale needed change. Not everything has to or can be measured. However, focusing on a [Return on Instruction](#) allows everyone to incorporate multiple measures, both qualitative and quantitative, to determine if improvement is in fact occurring.

### **5. Reflecting Regularly**

When it is all said and done, the most important thing we can all do is to constantly reflect on our practice. In terms of efficacy in digital learning, consider these reflective questions from your particular lens:

- Did my students learn?
- How do I know if my students learned?
- How do others know if my students learned?
- What can be done to improve?
- What point of view have I not considered?

Education will continue to evolve and transform in amazing ways, whether it be through digital learning or the implementation of innovative ideas. Pushing to be better and to keep striving for continuous improvement depends on us educators developing strong practices around efficacy, no matter the particular approach we're taking. For change to really be understood and embraced by all stakeholders, it's critical that we show efficacy in dynamic and convincing ways.