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## Introduction

# Designing Lessons for Authentic Engagement

AS A TEACHER EDUCATOR, I frequently ask new and veteran teachers why they use technology. One of the most common answers I hear is that technology engages students. This emphasis on engagement in learning through technology is not only coming from practitioners. Research on technology in education repeatedly focuses on how technology can engage or excite students during a lesson. For example, when school leaders were asked the benefits for using technology in learning in a recent survey by Project Tomorrow (2016), the number one reason given was that the technology increased student engagement in school. There are numerous studies citing that technology contributed to student engagement (Bebell & O'Dwyer, 2010; Martinez & Schilling, 2011; Spires et al., 2008). Many of these studies leave the impression that simply using a digital device is magical motivation for students, moving them from noninvolvement in class activities to active engagement. While this is useful research, in my 20 years of teaching, I have found that technology almost always engages students. However, over the last six years, I have come to understand that there are different types of engagement when it comes to technology tools. Authentic engagement is not about using a specific technology tool; rather it puts the learning outcomes first and the technology choices second. This book shares what authentic engagement looks like, sounds like, and feels like in learning. The framework introduced in this book, the Triple E, will allow teachers to put the needs of the learner first, and then select the technology tools that leverage authentic engagement in the instructional goals.

## The Pitfalls of False Engagement

Many studies measure engagement through observation—in other words, if students are observed looking at learning software or using a digital device, they are labeled

“engaged.” Yet, just because a child is swiping through an iPad does not necessarily mean he or she is focused on the process of learning; the child could easily be swiping quickly to get to the fun game at the end and not actually comprehending the content. This is *false* or *flawed engagement*, the observational assumption that because a student is actively using a technology tool, he or she is engaged in learning, when, in reality, the student may not be meeting the desired learning goals. An example of false engagement would be a teacher using a web-based tool to give a mobile quiz and a student answering the questions via cell phone, but focusing on being the first one to answer rather than understanding the nature and purpose of the questions. Engagement in learning goals is different than engagement in using a tool or website. Thus, buyer beware: engagement through access alone can quickly become a gimmick, so be wary of only using technology because it will engage students in a device or screen.

Allow me to elaborate with my own story of false engagement. When I began teaching in 1996, I learned how to use PowerPoint. In the 1990s, knowing how to use PowerPoint was rare for a classroom teacher. I was so taken with the “fun” of the tool that I decided to experiment and turn one of my traditional overhead projector lectures into a PowerPoint presentation. Immediately, my students had a positive reaction to watching words scroll across the screen, seeing little cavemen animate, and observing slides transition in unique ways. Mistakenly, I took this “engagement” in the PowerPoint animations to mean that my students’ comprehension of the content was increasing. Thus, I decided to turn all my lectures into PowerPoint presentations. Yet, about three weeks into the PowerPoint lectures, students’ heads started dropping back down to their desks, and they no longer cared which animation I chose for a slide or how the words floated across the screen. Their final unit assessment did not show any difference in comprehension of the content from when I did just a traditional lecture. It was my first lesson in how technology can “engage” students in the technology tool, but not necessarily the learning.

When using technology leads to flawed engagement, students will eventually lose interest because they recognize that the technology is a mere trick and not actually adding value to their understanding of the content. After years of watching teachers do the same thing that I had done, I recognized one mechanism lacking in teaching with technology: a practical and measurable framework on what authentic engagement and effective integration look like. For years I was haphazard, trying new

technologies because they were shiny and novel, while ignoring or dismissing older ones because we assume “older” equates to antiquated learning. I tried some frameworks (discussed in Chapter 1), but they tended to focus on transforming a task based on a particular tool. Hence, the emphasis was on how extensively one could use the tool, rather than if the tool was helping the students meet their learning outcomes—thus putting the tool before the learning.

I needed a framework that could give me guidance in selecting technology based on the needs of my learners and my instructional goals. Besides knowing how to select the “just right” digital resources, I also needed to know how to use technology tools with students. When my students would use one-to-one devices, I often threw away the effective instructional strategies I knew worked well in a traditional setting. For example, I knew learning was social and knowledge construction happened through social interactions, yet I often isolated students when they were using digital tools and allowed them to sit in corners with headphones on, very rarely having them reflect on their learning experiences within the software. Instead of tossing out those research-based instructional strategies simply because students had a digital device in front of them, I needed to be integrating those strategies into teaching with the technology tools. I had to allow the content learning goals to come before the technology choices, thus enabling the technology tools to support the learning.

## Authentic and Measurable Learning with the Triple E Framework

Over the past decade of the digital technology boom in schools, teachers and administrators have witnessed technology being used in superficial ways often enough to know that access to technology in and of itself is not a magic potion. Furthermore, empirical research has also shown that just putting technology into the hands of students does not guarantee improved comprehension of content or learning goals (Conoley, Moore, Croom, & Flowers, 2006; Schackow et al., 2004; Stein, Challman, & Brueckner, 2006, as cited in Filer, 2010). I don't think educators would argue that technology is a tool that should help students reach their learning goals. In life, we don't select a tool and then create a problem just so that we can use the tool; rather we select a tool to meet the needs of the problem. For example, when hanging

pictures in my living room, I am not going to use a chainsaw, despite the fanciness of the tool. Instead, I am going to use a basic hammer because it meets my goals. Teaching with technology is also about the operator, not just the tool. Making sure that we put the learning needs of the student before the excitement of the tool is key to successful and effective lessons with technology.

As of 2014, there were over 75,000 apps listed in the education category of the Apple App Store (Wartella, 2015). Yet over 70% of these apps have zero educational research to support their development (Vaala et al., 2015). Very few empirical studies on the use of educational software have been done to show whether the use of such apps correlates with effective learning outcomes (Wartella, 2015). Thus, how does a teacher know which technologies are going to be effective for meeting their students' learning needs? Simply because an education app is featured in the App Store does not mean the app will automatically help students learn. How do we know when we are putting the learning goals first or if the "fun" of swiping and shaking an iPad is actually giving teachers a false sense of "engagement" in the learning goals? How do we measure technology integration in the classroom that goes beyond engagement via access alone?

Educators like myself are often looking for a framework to help answer these questions. There are some helpful frameworks for integrating technology in schools (e.g., TPACK, SAMR, TIM), however many of them lack an explicit practical focus on the learning goals. The primary focus of many frameworks tends to be on comparing the creative use of technology to traditional methods, rather than on how well the tools are able to help students meet the actual learning goals. I would sometimes get lost in these frameworks trying to develop a lesson that creatively uses technology tools in order to meet a higher level of transformation on the models. However, by putting the tool first, the lesson did not always connect to the desired learning outcome, which sometimes became problematic. For example, about two years ago, I learned about a new online gaming tool and decided to try it. I had students participate in the online quiz game to review their understanding of digital safety. The quiz activity was set up in a creative way to get towards a more transformative approach to learning (it even included Skype experts and the option to text a friend). However, I found the students became so fixated on being at the top of the leaderboard in the game that they rushed through the review, did very poor research trying to find correct answers, and would not take the time to reflect on their learning. While



the students were focused on the activity, cheering and having a blast, and while I worked hard to set up the game to redefine how they were learning, I realized they were too focused on the tool. I then switched the game back to our old analog system of reflective turn and talks without technology, and I found that they were much more involved in deeper reflection and better meeting the learning goals. It was a reminder to me that trying to reach the upper echelon of a framework by letting the tool lead does not always result in better learning outcomes. The Triple E Framework can help prevent teachers from making some of my mistakes. By using the Triple E Framework alone or in addition to current models, teachers can first, focus on the learning, and second, locate the tools that will help meet the desired learning goals.

The Triple E Framework provides educators with a practical way to measure whether or not authentic student learning is occurring when digital technology tools are integrated into a lesson. It also provides support to help educators make better instructional decisions when integrating digital technology tools. The framework is based on three components: *Engagement* in learning goals, *Enhancement* of learning goals, and *Extension* of learning goals. While these three terms are often used interchangeably, they are distinct and different. This book will define and show examples of what makes each level unique.

## What's in This Book

I recommend that readers take a linear approach to this book and read the chapters in order. In doing so, readers will get a full picture of the purpose of the Triple E Framework and what authentic engagement means in educational technology. This book is written as an evolution from theoretical to practical. The chapters evolve, beginning with why the Triple E Framework was created, followed by the research that guides the framework, how it compares to other frameworks, how to use the framework, practical examples of lessons using the framework, and ultimately a lesson-planning template to assist in developing lessons based on the framework. Some educators familiar with the framework may prefer to skip ahead to the examples from the field. In Chapter 8, diverse teachers share their lessons that meet all three elements of the Triple E Framework.