

Finally, Some Guidance! Using the Triple E Framework to Shape Technology Integration

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Abstract

How can schools integrate the lessons of remote learning during the COVID-19 pandemic into their face-to-face teaching. What guidelines can teachers use to be sure they are integrating technology? In this article, we propose an adaptation of the Triple E Framework to guide this work. The goal of the framework is to ensure that technology use supports student engagement, and then, while engaged, students' learning is enhanced and extended by technology.

Keywords: technology integration, adult learners, framework, Triple E

In March 2020 when California went on lockdown due to the pandemic, the Outreach and Technical Assistance Network (OTAN), the provider of professional development in technology integration for adult educators in the state, conducted a survey of adult schools to find out about how they were handling instruction during the lockdown. Of the 242 adult education agencies that participated, 95% of them indicated that they had immediately implemented remote learning options. However, there was a significant drop in student enrollment for 78% of the agencies (OTAN, 2020).

The way schools reacted to the sudden lockdown was to institute “emergency remote teaching,” defined as “a temporary shift of instructional delivery to an alternate delivery mode due to crisis

circumstances” (Hodges et al., 2020, para. 13). As ESL instructors and professional developers managing this new delivery mode, the Triple E framework has been very helpful for us to continue to plan challenging, high-quality instruction that includes deliberately selected tools for effective technology integration. The Triple E framework helps adult educators structure technology integration with students.

What is the Triple E Framework?

The Triple E Framework, developed by Dr. Liz Kolb in 2011, was initially created to support technology adoption in K-12 settings. We have adapted this framework to adult education as a guide for

teachers to meet learning goals with technology tools. In contrast to other technology integration frameworks, the Triple E Framework focuses more on what students **do** with technology. The goal of the framework is to ensure that technology use supports student engagement, and then, while students are engaged, learning is enhanced and extended by technology. Using a simple [rubric](#), instructors can self-assess, and administrators can provide effective feedback on an instructor's technology integration choices.

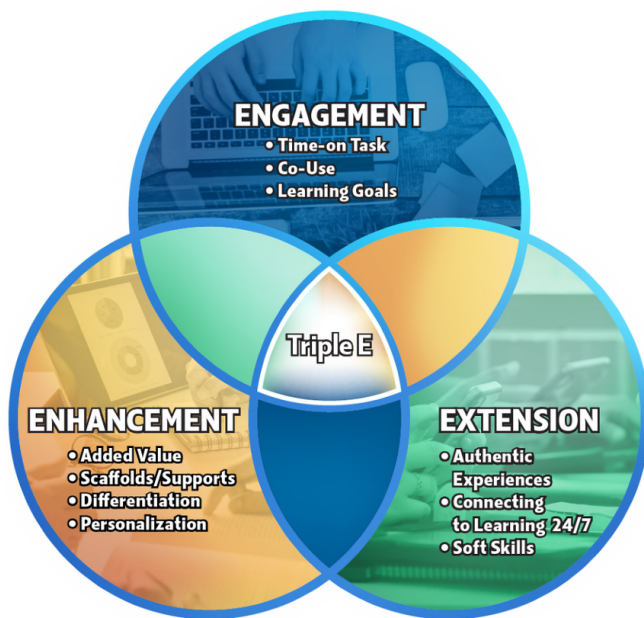


FIGURE 1. The Triple E framework model "Triple E Graphic" by Outreach and Technical Assistance Network is licensed under CC BY-NC-ND 4.0

Each aspect of the framework is described in Kolb's (2017) book, *Learning First, Technology Second: An Educator's Guide to Designing Authentic Lessons*. Figure 1 illustrates three descriptors for what happens when technology is integrated.

Engagement occurs when students actively participate in social learning activities focused on learning goals. For actively participation, there needs to be co-use. Students practice, create, communicate, and collaborate through technology

tools. Enhancement is accomplished when students learn better through use of a technology tool. This means that the tool isn't integrated for the sake of technology use but rather because it is a good fit for learning the content. Use of the technology tool has an added value in that students would not be able to learn in the same way or to the same degree as with conventional tools. Extension is students' technology use outside the classroom. Through the technology integration that occurred in their learning in class, students consequently experience a natural connection between school and everyday life. They continue their learning and practice with technology tools apart from the class and on their own, and the technology tool may be relevant to and used for other purposes in their lives.

How to Use the Framework

The framework is a four-step process. The first step is to define the learning goals. For example, let's say the learning goal is to learn to write a comparison paragraph. Once you have defined the learning goal, the second step would be to select the appropriate technology tool. For this activity, Google Docs was selected as the technology tool because they are learning remotely, and it is easy to collaborate on Google Docs. Students would then discuss, on Google Meets or Zoom, in pairs and talk about their similarities and differences. The third step is to engage the students by having them be active and social learners. To scaffold the learning the teacher might give the students a Venn diagram to fill out. Students are told to share the doc with the instructor and thus the instructor can watch the students work in real time. If there appears to be a problem, the teacher can jump in and help. The teacher can share comments with the students, use "suggest mode" for error correction, and ask questions using the Google Docs assign tool. These features help

with the fourth step, which is to connect what students are learning with real world tasks and contexts. In this case, students are learning how to collaborate, and this can carry over to their work or home environment.

The three Es are essential to effective technology integration in instruction. Kolb created the Venn diagram in Figure 1 to describe how learning can occur through technology. The letters A - F in represent the different layers of technology integration.

“A”

There is technology, but there is no integration occurring. For example, students are working on a fill-in-the-blank activity that the teacher printed out from the computer.

“B”

Technology integration should engage students. This is where the first “E,” engagement, is present. Students spend more time on-task, and there is co-use, which Kolb (2017) defines as the person-to-person social use of a digital tool. This means the tool shifts the behavior of the students from passive learners to more active social learners, and students are focused on their learning goals while on a device (Gaer & Reyes, 2019).

“Co-use” is the key to successful engagement, yet not all use of technology in teaching reaches this standard. For example, a teacher takes students to a computer lab once a week for independent work on a software program. This is engagement if students are spending time on task, if they are focused on the program the whole time, and the program is focused on the learning objectives of the class. However, because the students are working independently on the computer and not actively socially engaged, this would not be co-use. Kolb (2017) writes that more successful

technology integration happens when we create lessons that have students “focus on creating content and learning materials around technology tools rather than using apps and websites with a ‘drill and practice’ approach to learning” (p. 14). The latter type of technology integration used in isolation has little to no measurable effects on student achievement (Kolb, 2017). Engagement is not enough; the technology integration must enrich learning (Gaer & Reyes, 2019).

“C”

Technology integration should enhance learning, the second E in the Triple E Framework. Kolb (2017) writes, “In life, we don’t select a tool and create a problem just so that we can use the tool; rather, we select a tool to meet the needs of the problem,” (p. 3). Use of a tool also must enhance students’ learning. Enhancement means the student creates content to demonstrate learning. For example, students playing a Kahoot game is engagement, but students **creating** a Kahoot game is enhancement. To support enhancement, which requires pushing students’ critical thinking, analysis, and evaluation skills, Kahoot has developed a [printable game planning template](#) for students to create their own games.

To support enhancement, the teacher must develop scaffolds to make it easier for students to understand ideas and concepts. For example, students collaborate on a Google or Word document online, giving each other feedback before submitting it to the teacher. This activity would allow students at a higher level to help those at a lower level (Gaer & Reyes, 2019).

To achieve enhancement, students should be able to demonstrate their understanding better through technology than they could with a more traditional tool. Does the activity show you that the students have learned a concept?

“D”

Technology integration should extend learning, the third E of Triple E. Extension leads to students learning outside the class. Teachers typically think of extension as homework, but the authors believe that homework that does not extend into the students’ everyday lives is not useful. Technology tools are available to students 24/7, and if you find an activity that the students think is important and related to their technology learning needs, they will spend time outside the classroom learning. For example, instead of giving the students a vocabulary list to remember, have them open a Quizlet stack on their phones. Having students use their phones for activities such as this builds students’ comfort with using apps. They can then study the vocabulary at home, at work, on the bus, or during lunch. The Quizlet sets now become a bridge between school and their everyday lives. Students can create digital artefacts with photos they take of

their own lives. Once students see the impact on their learning, Quizlet stacks will become a part of their own personal learning network. This is what we want happening in our classrooms with technology integration: students engaged, learning enhanced, and learning extended outside the classroom, the Triple E framework.

Resources that Support Evaluating Activities

According to the Triple E framework, if you achieve B, C, and D you will hit the “sweet spot” -- the perfect lesson. However, this is not necessary in order to have a well-integrated lesson. The table below is a user-friendly rubric designed by and shared with permission of Karen McKinley of the Warren County Educational Service Center in Lebanon, Ohio. The rubric is an abridged version of Kolb’s more comprehensive work (Kolb, 2017). We have adapted McKinley’s version below for adult educators.

Engagement through technology	0 = No	1 = Somewhat	2 = Yes
Students focus on assignment/activity/goals			
Students are motivated			
Student are active social learners			
Enhancement of the learning goals			
Students develop or demonstrate more sophisticated understanding of the learning goals or content			
Technology creates supports to make it easier to understand concepts or ideas			
Students demonstrate understanding in a way that they could not do with traditional tools			
Extension of learning goals			
There are opportunities for students to learn outside of typical school day			
There is a bridge between students' school learning and everyday life experiences			
Students build authentic life soft skills			
Reading the results		Totals	
13 - 18: Exceptional connection between learning goals and tool		_____ / 18	
7 - 12: Some connection between learning goals and tool			
6 or below: Low connection between learning goals and tool			

We have created the traffic light system visual shown in Figure 2 based on Kolb's rubric to provide a visual illustration.



FIGURE 2. Triple E Framework technology integration rubric visual

To use the rubric and then see your “stoplight score,” select a lesson of your choice, rate the lesson based on the rubric, and then note the points. After you finish, add all the points together to see a numerical score showing how your technology integration measures up against the Triple E Framework. Find that number in the stoplight.

Red is the lowest level of integration. Many activities that use technology fall in this category, for example, when the activity just requires students to play an online game in their classroom. Activities that rank in the red zone do not use authentic engagement. According to Kolb (2017) “. . . part of measuring engagement must consider whether or not the students are dynamically involved in the learning process” (p 40). We must strive to do more with our technology use to increase authentic engagement.

The yellow zone usually indicates that the lesson has either engagement and enhancement or engagement and extension.

While it is great that instructors are using technology more purposefully, there is still room to better support student learning with technology tools. **Scoring in the green zone is the sweet spot.** These are lessons that help students connect their learning to their worlds outside of the classroom, keep them engaged in the classroom, and keep them focused on their learning goals. This is the type of lesson for which teachers should ultimately strive.

While hitting the sweet spot is ideal, it is more important that we as teachers get out of the red zone. Using the Triple E Framework rubric to analyze your lessons will help you see where you can improve over time (Gaer & Reyes, 2019).

Conclusion

At the time of writing, many adult educators are still not teaching in person, but now many more teachers are comfortable with distance and blended learning. It is important to start thinking about how to realistically integrate technology into learning objectives in a sustainable and thoughtful way. The Triple E Framework of engagement, enhancement, and extension can support this work. Engagement must include co-use, which will increase students' social interactions and engagement with the content. Enhancement should include a way for students to share their learning with others, such as a student portfolio or online presentation. Extension requires that students know how to use the tool for their day-to-

day lives. A good lesson has all three of these Es.

Knowing that we will return to in-person instruction, how would you like your future classroom to look like? Do you want to go back to exactly what you were doing before the pandemic or do you want to integrate more technology into your lessons with better results, lower student drop rates, and higher levels of persistence? The authors recommend using the Triple E framework, as it is an easy framework to use and understand. To give you guidance on lessons that meet the framework, we have provided examples for low beginning ESL through ABE Language Arts and one basic math lesson. We hope you enjoy these lessons.

Sample Lessons

- **Understanding basic car parts for the purpose of reporting accidents**
- **Learn how to make a simple mask**
(*Low Beginning ESL*)
- **Virtual Model: Describing and selecting attire appropriate to situations**
(*Intermediate-Advanced ESL*)
- **Using Food Labels to Make Better Food Purchases**
(*ABE, Intermediate-Advanced ESL*)
- **Math: Understanding Digits**

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