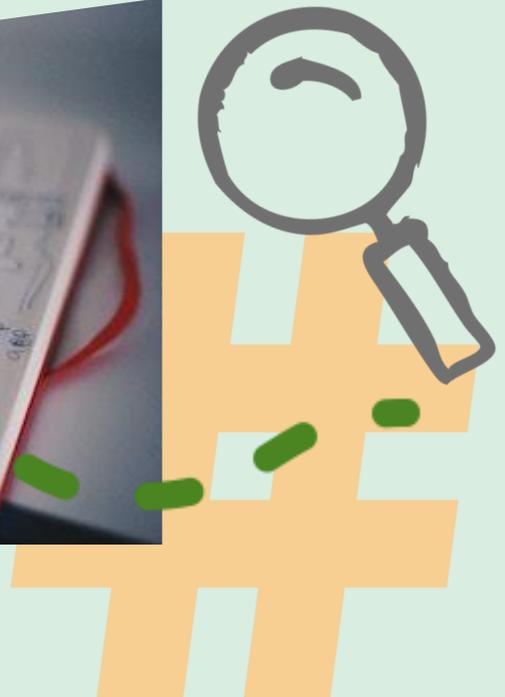# What is SAMR?

The SAMR model was developed in 2010 by education researcher Ruben Puentedura and lays out four tiers of online learning, presented roughly in order of their transformative power.

SAMR is a reflection tool that can help educators think about how digital technology integration is supporting learning in specific blended learning lessons and activities.

The SAMR model gives educators a common way of communicating about technology integration.

The letters "SAMR" stand for

Substitution

Augmentation

Modification

Redefinition

SAMR helps us ask and answer questions about what teachers and learners will gain from the technology before implementing it.

If using digital technology adds nothing but hassle, teachers may choose to stick to pen and paper.

If the learners are at the beginning stages of understanding the benefits of learning in a technology-rich environment, teachers may choose to start with substitution and augmentation activities.

If learners have some proficiency with digital technology and are using devices and software in creative ways, they may have expectations that learning environments will include activities and lessons that use modification and redefinition strategies.

So what do substitution, augmentation, modification and redefinition mean?

Here is the SAMR diagram.

Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign

Augmentation
Tech acts as a direct tool substitute, with functional improvement

Substitution
Tech acts as a direct tool substitute, with no functional change

Substitution

Substitution describes activities where digital technology acts as a direct substitute for another technology but there is no functional change.

We are substituting one technology for another but what we can do does not change. Substitution strategies do not change the learning process. environment or outcome.

For example, a teacher might scan lessons and worksheets, convert them into PDFs, and post them online. Schedules and vocabulary lists can be converted into digital formats that learners can easily reference.

Learners will access the digital files differently than paper handouts but they will use both digital and hardcopy files in much the same way.

The goal with substitution strategies is to keep things simple. We use substitution strategies when there is no need to reinvent the wheel.

Augmentation

Augmentation describes activities where digital technology acts as a substitute for another technology and there is a functional improvement. The product remains the same but the process of creating it may become more efficient or easier.

For example, word-processing software augments the process of writing an article—we can check our spelling and grammar, use the built-in thesaurus and dictionary, check our word count and can dictate our article instead of typing it. The product and the writing process are not transformed, but many of the tasks that are part of the process have become easier.

The goal with augmentation strategies is to leverage the power of technology to streamline tasks. We use augmentation strategies to help learners see how digital skills can supplement literacy skills. Emergent readers and writers can use technologies to support creative expression and knowledge construction.

Modification

Modification describes activities where technology begins to transform the learning experience and allow students to generate innovative work that isn't confined to documents. It is sometimes said that modification is where learners move from being consumers of knowledge to creators.

For example, learners can collaborate with instructors on shared artifacts (documents, videos, photo stories, audio recordings), or work in groups, allowing for seamless knowledge sharing. Learners and instructors can add feedback, suggest edits, and work on the document or media simultaneously allowing for significant task redesign. This interaction can nurture cooperative and dynamic learning.

The goal with modification strategies is to embed the use of technology into tasks and activities in a way that engages learners, empowers them with choice and voice, enhances critical thinking and independent learning skills and makes knowledge construction a collaborative experience.

Redefinition

Redefinition describes activities where technology allows us to do things that would be impossible without the use of digital technology. This can be difficult to imagine but generally it means expanding the boundaries of the "classroom."

Redefinition strategies allow us to access expertise and authentic audiences with greater ease. We can watch historical and current presentations and speeches. We can become publishers and creators and we can develop networks of inquiry with participants locally and at a distance.

Often redefinition activities are combined with project-based learning strategies for example, learners can tackle local problems—such as, investigating the water quality of a nearby river—and present their proposals to members of the community.

The goal with redefinition strategies is to expand the "classroom" and extend learning beyond participation in a particular program at a particular time.

Some notes about the model

SAMR should not be regarded as a mountain to climb. Good technology integration isn't about living at the top of the SAMR model; it's about being aware of the range of options and picking the right strategy—or strategies—for each context and learning outcome.

Dr. Puentedura proposed that curriculum becomes more learner-centred and activities become more learner-driven as we move from substitution to redefinition but, teachers have to consider the capacity of the program to support inventive uses of technology and the capacity of learners to use technology in inventive ways.

When planning the integration of digital technology into activities, lessons and curriculum, teachers often start with substitution and modification. As teachers and learners become comfortable in a technologically enhanced learning environment, the last two levels of the SAMR model—modification and redefinition—can be added to the mix.

What does SAMR mean to literacy teaching practice?

The SAMR framework can help us talk about the ways we are using technology, assess technologies to see how they will fit our context and help us plan future uses.

For example, one of our favourite resource sites, the [Online Tools for Teaching and Learning](#), uses SAMR to describe how different learning technologies may be integrated into lessons. Online Tools for Teaching and Learning was created and is updated by students at the University of Massachusetts Amherst using redefinition strategies.

This site was designed to help you identify online tools that you might use for teaching or learning. Each page includes a wealth of information about a specific tool (e.g., price, ease of use, description of the tool, innovative ways to use the tool for teaching and learning, **how the tool fits with the SAMR model***) to help you evaluate the tool and determine whether to use it in your practice.*

Some people find their use of SAMR helpful in reflecting on possible ways to integrate these tools into a [blended learning](#) program.

SAMR and learning objectives

The lines between each category can be a bit blurry. We should not be too concerned about correctly determining the correct terminology for our activities and lessons but some people find SAMR a useful framework for thinking through a [blended learning](#) approach that works best in their context.

You can try defining how activities fit into the SAMR framework here: [An Introduction to Blended Learning](#) (Slides 17-19). Many people find this exercise merely shows how difficult a categorization exercise can be.

The goal of reflecting on SAMR isn't to make sure we are always using the most sophisticated tool, but to find the right one for the learning objective. It is a way to reflect on your technology integration by thinking about a few key questions:

- How can my lesson be improved using technology?
- How can I engage and empower students through technology?
- How can online learning more closely resemble authentic, real-world learning?

The Triple E Framework

To answer these questions we might also look at the [Triple E Framework](#). The Triple E Framework was developed by Lisa Kolb in 2011. Her work builds on SAMR and proposes that technology is used for three reasons:

- To support student **engagement.**
- To **enhance** learning.
- To **extend** learning outside of class.

The framework is designed to measure the degree to which the technology in a lesson is helping students meet learning goals. The Triple E Framework focus is on the learning goals rather than on specific technology tools.

Not every activity will include all three components, but the framework provides [a possible guide](#) for designing a lesson cycle that includes all three elements by asking the following questions about each phase of the cycle.

Engage

Does the technology:

- Allow learners to focus on the task or activity with less distraction?
- Motivate learners to start the learning process?
- Support active/social learning?

Enhance

Does the technology:

- Help learners develop or demonstrate a deeper/broader understanding of the content? (Does it create opportunities for creation/production over consumption?)
- Create scaffolds to make it easier to understand concepts or ideas?
- Create paths for learners to demonstrate their understanding of the learning goals in a way that they could not do with traditional tools?

Extend

Does the technology:

- Create opportunities for learners to learn outside of their typical "school" day?
- Create a bridge between school learning and everyday life experiences?
- Allow learners to build skills, that they can use in their everyday lives?

SAMR and other Frameworks

To see other frameworks that build on SAMR, take a look at the [Planning technology for learning page](#) on the [AlphaPlus Digital Technology for Learning](#) site, especially:

• The [Technology Integration Matrix (TIM)](#)

• The [Levels of Teaching Innovation (LoTi) Framework](#)

If you are interested in how the Bloom's Taxonomy can work with the SAMR framework, check out:

• The work of Kathy Schrock on [Blooming Apps](#).

• The [H.E.A.T. (Higher-order thinking, Engaged learning, Authentic connections, and Technology use) Framework](#).

SAMR is a powerful tool for reflecting upon and developing a [blended learning](#) approach that works best in the ever-evolving contexts in which we work and, as a foundational document that underpins much of the work on blended learning can help us understand proposed [approaches](#), [frameworks](#), [models](#), and [strategies](#) more deeply.

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