**In the Classroom 91**
# Here Is a Strategy for Purposefully Introducing Technology in the Classroom

---

SEE THE SHOW NOTES AT: *http://tubarksblog.com/itc91*

---

**Stan Skrabut:** Well, thanks for taking time to listen to this podcast. It certainly means a lot. I know you could be doing other things, but you're hanging out with me. I really do appreciate it. This week, we're going to talk about a model for introducing technology into your classroom. When we add technology, it has to serve a purpose. It has to help enhance learning, not for the sake of just adding technology. The model we're taking a look at is the SAMR Model because I think it really will help you get started or increase the purpose of why you're using technology.

First of all, what is the SAMR Model? The SAMR Model is a four-tiered framework that Dr. Ruben Puentedura created. These four tiers include substitution, augmentation, modification, redefinition. These four levels, they'll help you look at what you're doing and help you find an appropriate technology equivalent to what you're trying to achieve. The purpose of technology in the classroom is to improve what you're doing. This can be increased efficiency or improved performance, but it has to take whatever you're doing to the next level.

Because of the need to move into this online or remote teaching format that COVID has forced us into, there's an increased interest in using technology to increase engagement as well as accomplish tasks that were previously conducted in an analog fashion. The SAMR Model provides a thoughtful approach to incorporating technology to enhance this learning. The first two levels of the SAMR Model the substitution and augmentation pieces focus on enhancement. The last two levels, modification, and redefinition focus on transformation. Let's take a look at each of these different level.

The first level is substitution. Substitution is pretty easy. It's the first step for adding technology into the classroom. It is simply changing one modality for another without a functional change. For example, if you have a paper textbook, and you provide a digital PDF document of that textbook, the content is the same but the PDF is in a different format. It's in a different technology. It is digital but as far as functionality, they work the basically the same. Another example, if you're giving lectures, and you provide a voiceover PowerPoint, it is the same as a lecture except the technology is different.

This is a way that you can add additional support to your classroom. That you can take a lecture supported with, say a PowerPoint presentation, and record it and make it available. You can provide a podcast or an audio file to do this. Next week in episode ITC 92, we're going to be talking specifically about how to use audio to

support your classroom. Come join me on that. In this COVID world, you may be delivering your lecture on zoom. Same lecture, but the format, the technology is a little different. You could also record this lecture and deliver it through your Learning Management System, same lecture, just the format is different. Rather than face-to-face, you're doing in a digital format.

If you have your students, they're writing things with a pen and paper and suddenly they go and start using a word processor to keep their notes that is an equal substitution. I'd argue that probably there's some augmentation in there because there's things that you can do that, you couldn't do just with pen and paper. Really just the act of collecting notes or taking notes is the same. Another way that you can do a substitution, rather than have students' hand in paper products, hand them to you and consume resources, you can have them upload their homework and assessment through a learning management system. It's just they're turning it in a different way.

One way they're doing it by paper, the other way they're doing it digital, but it's the same document. I regularly define words using online dictionaries rather than reach for my paper dictionary. As a matter of fact, I don't even know where my paper dictionary is, my book. I have no idea. Another substitution is, if you use a concept map, say you're drawing it on a whiteboard. Well, one the whiteboard, you can do that in a digital Whiteboard. Rather than have a physical whiteboard that you're writing on, you can do it digitally, it's a substitution. Also, your concept map. You can do your concept map in specific programs that allow for concept map. You're still creating a concept map, but technology is different.

In a classroom, you can walk around, show students how to do something. Using technology as substitution, you can create how-to videos and post them online that they can get to. That's the idea of substitution. You're not fundamentally changing thing, it's just a different format. Augmentation. Augmentation is doing a substitution, but you have a functional improvement. In Kathryn Smith's article *Purposefully Incorporating Technology into the Classroom Using the SAMR Model,* she shared an example of improving digital notetaking through technology, with the use of tagging and searching. This helped better-organized note. It established relationships between notes and you can find notes quicker.

Well, I have a bunch of bullet journals that are sitting behind me. Very difficult to search and find things even though I index them. That's speeding up the process, but it takes a while to sift through it. The fact that I digitize those and put them in a program called Evernote, I can now search through my handwriting and find those notes. That is an improved functionality by simply digitizing my notes. Another functionality that you may want to look at is when drafting documents using Google Voice Typing or Microsoft Dictation to draft a document. This separates the writing process from the editing process.

It ends up better writing because you're focusing on the strengths of each of those processes, rather than diluting them by switching back and forth. Another writing tool that I have that increases the functionality is a tool called Scrivener. I talked about

this in Episode 58. This will help students change how they compose document. This tool, it's different than Microsoft Word. It allows students to focus on the collection and organization of ideas. You can move ideas around very easily and really just focus on the minute details. That changes even from writing to a word processor. It takes it to another level by using just a different tool for crafting document.

As an educator, when you introduce these tools, and you're looking for a functional improvement, you need to point this out to the students. For example, on the aspect of notetaking, how these different functions can help them take better notes and achieve higher levels of success. That's something that you certainly want to talk about. Another augmentation tool is we can do surveys. We can simply have students raise their hands. You have to go count the hands and do the math in your head.

There's other tools like Plickers or Poll Everywhere or Google Form that when you collect the information from students, and you can do this on mobile devices, is that it will tabulate automatically those graphs and charts and let you know what the results are in an instant. That allows you to really go back and focus on your method. The same with doing quizzes. You can do quizzes with a paper product, or you can move your quizzes to a Learning Management System. That's just a very simple substitution. With Online Quizzing, students can get immediate feedback and they can get their grades immediately.

The same for instructors that quizzes are graded immediately and scores are automatically tabulated. Online Quizzing is a very powerful tool. I talked at length about this in Episodes 18 and 40, so go check that those episodes out. For content that you create or share, you can enhance the content with link to richer documents or embed multimedia right into your document. If you use an OER which you should, you can adapt those materials take them to the next level by introducing hyperlinks to other information by putting those embedded documents. You're improving the functionality of them. I talked about OER in Episode 3. We've talked about substitution and augmentation.

Substitution very basically, one for one, we're really just changing the tool. Augmentation is because of that tool; we have increased functionality or improvements to the functionality. The next one is modification. Modification allows for a significant task redesign. With this, it's really starting to alter the assignment. It's not just as simple as doing a one for one, but you're really altering. For example, when you present content, you can also be soliciting feedback and discussion in real-time. For example, Google Slides, you could solicit questions from students through the Q&A tool. Students have the ability to vote them up and down.

You can have that going on at the same time that you're giving the presentation. You can then refer to those questions or statements as students are posing. In a Zoom Class, through the chat feature, you can have a Backchannel going where students have the ability to ask questions, share resources with the rest of their class, provide clarification to their students, same time that you're presenting your content. Dealing with assignments, they could become more authentic because you're using real-

world tools like blogs and podcasts and Google Docs and YouTube videos that you're doing mash-up with these, you're talking to real audiences.

There's a lot more collaboration going on that you wouldn't normally get maybe with a simple paper document. With reading assignments, you can enhance those reading assignments by embedding videos and audio in imagery. Also, students can discuss those reading assignments using social annotation tools like Hypothesis. I talked about Hypothesis in Episode 54. We can also modify student hours by taking them online. If you want to learn more about that, you can go to Episode 53 for that. However, the real power on going online is the fact that you meet the students where they are, rather than forcing students to come to you. That you can catch them where they are.

Really, a lot of it is just in time need. That they have a need, maybe while they're doing their homework, and suddenly, they have a need to talk to you and the fact that you're available. Quite powerful. Personally, I've started watching a lot of video reviews of music, movies, other TV shows. Students can create these same projects as they are reviewing perhaps a chapter in your textbook or a book or videos or something that you're displaying. They can get a group of students together and do reviews on those particular items and extend the class that way. Learning Management Systems is a modification that is different than how you would typically run a face-to-face classroom. With an LMS, it provides you with a place to post content, track grades, communicate with students, and post other assignments.

When we're looking at introducing technology in the classroom, you can see that these are different levels from substitution, augmentation to modification. We're changing how we are doing business in the class. We're trying to use technology smartly, in order to make a meaningful change to the class. With online communication channels, you can reach all members of the class, like a discussion. That you get the voices of everyone in the class, not the ones that are simply the loudest or the quickest to raise their hand. That with a Discussion Board, you can require everyone communicate, and you get all those voices. That is definitely an important modification. The last level is redefinition.

Redefinition allows for the creation of new tasks that were not even imaginable before. Again, I'm going to defer to Kathryn Smith, as she provides a wonderful example. Once again, going back to the idea of note-taking, as an instructor, you could share your notes with your students. Students in real-time could collaborate with those notes and help make them better. You can also share that with the rest of the world and the rest of the world who would add commentary.

You're really rethinking how you would do that. Rather than call for an assignment in one format, you could allow students to submit them in a format of their choice. Encourage this idea of creating mashups of multiple formats to create original product. Very much in line with Universal Design for Learning, offering this type choice. When students are working on real-world problems, they can share their presentations, documents, videos with their stakeholders, and the rest of the world.

Basically, you are breaking down the walls of the classroom, that students can interact with members of their community and with anyone around the world.

Examples of where this breaking down of walls comes into play is have students communicate with native speakers on a regular basis and you can do this online. Rather than play games created by others, you could have students design their own games and share them with the rest of the world. I've talked about personal learning networks; how powerful they are. This idea of redefinition, this is where you can really have students extend the classroom and not only learn from you, but develop a personal learning network where they're learning from experts and specialists dealing with your discipline all over the world.

Once again, virtual worlds are allowing us to explore places that we would not normally be able to visit. For example, the inner workings of a biological cell. While exploring Second Life, I walked into a cell. I was able to see the different parts of a cell. There's now 3D museums and virtual tours of places that we just can't easily go to and you cannot bring this all into class. I would like to thank Dr. Jackie Gerstein for some of these ideas that she shared about SAMR. A lot of great ways of reimagining what we do for education. Well, SAMR is not just for the classroom. This article I found on Schoology Exchange shared an intriguing concept. You can apply SAMR also to the work environment.

You can see this all around. Once upon a time, we used to have paper memo. They would type up a memo and pass it around. Well, this is transformed into email. Now we share documents online rather than creating binders of these docs. Because of COVID, we stopped meeting face-to-face and now we meet online with tools like Zoom. Because of this, we've seen enhancements that during a meeting, it would be hard to see what was being presented. Now everybody can see because it presented right on your screen. There's also a chat going on in the sidebar like students would have where resources are easily being shared.

This idea of SAMR is really taking a technology and using it purposefully into what you're doing, whether it's a classroom or meetings or just day-to-day operations. Technology is just a tool. There has to be real purpose for using it. The SAMR Model will help you examine what you're currently doing and help you reimagine it using technology. I would encourage you to go out and inventory the different tasks that you're doing. If you're doing a lot of analog tasks, can you automate those tasks? Why is this important? Well, we are rapidly moving to a world that will be dominated by artificial intelligence and robots. Our students need to feel comfortable in this.

I have to be honest; I've had some concerns, but I think with this COVID we've been pushed into a new world and it's exciting. I think the people that have moved into this world, but grudgingly at time, are finding some aspects of it are very useful. We just got to keep pushing on it. We got to keep moving forward. Like I said, the tool has serve a purpose. That is SAMR, I think it's a wonderful model to think about how you are weaving technology into your class and you should definitely take a closer look at. With that, I'm going to give you a little plug for my book.