The Four-Step Production Process:
TIM Matrix & RAT Framework Intro video

STEP 1*: PLANNING AND CONCEPTUALIZATION*
1. Brainstorming
   o Topic: Technology Integration Matrix and RAT Framework Introduction lesson
   o Target audience: Educators who utilize technology in their instruction
   o Atmosphere: Happy and exploratory
   o Settings: Classroom
   o Characters: Classroom setting of students and Ms. G the teacher
   o Note: Change the classroom setting

2. Scene details
   o First slides introduce the TIM and the RAT framework connection, the following slides introduce each TIM learning environment components
   o Dialogue/script (see attached)

3. Storyboard
   o Slide 1-4 Introduction to objectives, and TIM matrix
   o Slide 5-10 dive into the five TIM learning environments
   o Slide 11-12 assessment piece

STEP 2*: PRE-PRODUCTION*
1. Write dialogue/script (see attached) (TIME INTENSIVE)
2. Shooting equipment (laptop and headset)

STEP 3: *PRODUCTION*
1. Create slide show using Buncee (TIME INTENSIVE)
2. Capture audio and slideshow transitions using Screencast-omatic
3. Create assessment Microsoft Form

STEP 4: *POST-PRODUCTION*
1. Editing
   a. Edit audio
   b. add music
   c. adjust music and narration levels
2. Publishing (Youtube)
3. Create assessment bit.ly link for video

Slide 1:

Hi, Amanda Glover of Techy Teacher Trails here. Today I am going to introduce the Technology Integration Matrix, guide you to a better understanding of how to navigate the matrix to choose the learning environment that will support your standard based objective to best meet your student needs, and collaborate ideas in which you could implement immediately into your classroom instruction.

This video is meant to instruct you, through a brief overview of the Technology Integration Matrix 5 learning environments while embedding the analysis of the RAT framework. Feel free to pause as you review the information being presented and asking yourself, "Which learning environments do I, or can I try to utilize in my classroom setting?" or "What depth of integration is most appropriate for my standards based lessons?"

Slide 2:

By the end of this instructional video, you will be expected to… (read objective).

To show what you've learned, you will be expected to submit a reformatted lesson you have already done, or plan to do, analyzing the learning environment that you feel will best fit the standards being addressed, and the depth of technology integration you will include. The tools you use is completely up to you! I look forward to learning about some of your favorite ways to integrate technology into instruction! Let's get started.

Slide 3:

What is the TIM? As previously mentioned, the Technology Integration Matrix is a 5x5 grid jam packed with useful information that can help educators, instructional designers, or anyone looking to integrate technology into the delivery of instructional material to an audience. The horizontal rows are organized into five learning environments which vary according to the student's purpose for utilizing technology to learn. These categories are Active learning, Collaborative Learning, Constructive learning, Authentic Learning, and Goal-Oriented Learning. Each of these 5 categories are further broken into five categories (listed as vertical columns) of technology integration from most simplistic student usage to complete student ownership; entry, adoption, adaption, infusion, and transformation. We will discuss this further in just a moment.

On the website listed on this slide, there are a plethora of free resources for you to read more about the Technology Integration Matrix information presented here from classroom video examples, to graphics and presentations which could be used to inform your colleagues. I would like for you to take brief moment to view the Technology Integration Matrix by visiting FCIT.USF.EDU(slash)MATRIX. Please pause the video now to open the website.

Slide 4:

As you've just explored the TIM, you notice the five learning environments (Active, Collaborative, Constructive, Authentic, and Goal Oriented) were broken into five categories analyzing the depth of the integration.

When comparing these categories to the RAT framework developed by Dr. Joan Hughes, Dr. Ruth Thomas, and Cassie Scharber which allow for the assessment of technology integration, I have found that the entry level and adoption level of integration the technology being used is usually merely replacing something in the lesson which could be done without technology. Although this may be more effective, engaging ways to conduct portions of the lesson for the

teacher and students, it's not enriching the students learning, but replacing a non-technological component.

To amplify technology integration, the adaptation and infusion level could be target because within the RAT framework Amplification focuses on technology use that amplified current instructional practices, student learning, or content goals. Again, the focus is not on changing what we are doing, rather than making learning more productive and effective.

Transformational technology integration is the same within the RAT framework, as well as the TIM. (I am going to quote some of the article *Assessing Technology Integration: The RAT – Replacement, Amplification, and Transformation – Framework* here) At this level , "technology use transforms the instructional method, the students' learning processes, and/or the actual subject matter" The transformational level of technology integration does focus on many changes to the delivery and purpose of technology being use within instruction. For example: "Such reorganization involves the following changes: 1. The actual mental work changed or expanded. 2. The number of variables involved in the mental processing expanded. 3. The tool changed the organization in which it had been used. 4. New players became involved with the tool's use (or expanded use of the tool). 5. New opportunities for different forms and types of learning through problem solving, unavailable in traditional approaches, developed." (again from the *Assessing Technology Integration: The RAT – Replacement, Amplification, and Transformation – Framework*)

Slide 5:

Again, as previously mentioned, the TIM is comprised of five main learning environments which are leveled into five categories of technology integration. Throughout the rest of the video we will analyze the five learning environments while I use the visual here of the little kiddos in their classroom learning from their teacher, Ms. G.

Slide 6:

Active Learning environments are when "*Students are actively engaged in using technology as a tool rather than passively receiving information from the technology." (from the FCIT TIM website).* The levels of integration could range from students watching instructional videos, either independently or collaboratively. The students utilizing a teacher selected tool, such as a PHET simulation to analyze the forces and motion at play when pulling a wagon, or to increase the depth of integration allowing the students to choose the technology tool of their liking to show mastery of forces and motion. Typically, the teacher should allow for a flexible setting for students to be active in their learning.

You'll notice within our classroom here Ms. G in working on the side as students work together with their technology to accomplish their learning goals. Can you think of what tools your students could use if this were your classroom to become active within their learning?

In a moment we will pause to go back to the Technology Integration Matrix website. You're welcome to read more about the levels of integration. Please choose at least one video to watch which sparks your interest. You'll notice these videos are categorized by the levels of technology integration for the Active learning environment. Feel free to take notes as you get idea of how to enhance technology usage in your classroom. (You may pause now).

Slide 7:

Collaborative learning environments are when "*Students use technology tools to collaborate with others rather than working individually at all times." (from the FCIT TIM website).* The

levels of integration could range from students mostly working alone while using technology to research the effects of draught on a farming economy, all the way to the most transformational integration of connecting with peers or experts, like a farmer, (outside of the classroom walls or even time zones) who live in an area of the world prone to draughts to discuss the effects on their local economy. Students could transform this learning into a project connected to the United Nations Global Goals for sustainable development.

You'll notice in this classroom, Ms. G is a guide from the side as students work together by choosing tools for video chatting and using shared documents, to collaborate with local peers not at their school while connecting with global experts. Can you think of what tools your students could use if this were your classroom to become collaborative within their learning?

In a moment we will pause to go back to the Technology Integration Matrix website. You're welcome to read more about the levels of integration. Please choose at least one video to watch which sparks your interest. You'll notice these videos are categorized by the levels of technology integration for the Collaborative learning environment. Feel free to take notes as you get idea of how to enhance technology usage in your classroom. (You may pause now).

Slide 8:

Constructive Learning environments are when "*Students use technology tools to connect new information to their prior knowledge rather than to passively receive information." (from the FCIT TIM website).* The levels of technology integration could range from students simply receiving their instruction via a digitized presentation, or students create a digital graphic organizer showing connections from lesson to prior learning. To enrich the level of technology integration students should be consistently using technology to construct new meaning of instruction, or reach a point in which they can choose to tools to share and deepen content meaning through using the technology in unconventional ways.

You'll notice now in our classroom, again Ms. G is a guide on the side learning from her student's choices in which they are deepening their learning. The classroom allows students to construct meaning in a variety of ways which best meet their needs. Can you think of what tools your students could use if this were your classroom to become constructive within their learning?

In a moment we will pause to go back to the Technology Integration Matrix website. You're welcome to read more about the levels of integration. Please choose at least one video to watch which sparks your interest. You'll notice these videos are categorized by the levels of technology integration for the Constructive learning environment. Feel free to take notes as you get idea of how to enhance technology usage in your classroom. (You may pause now).

Slide 9:

Authentic Learning environments are when "*Students use technology tools to link learning activities to the world beyond the instructional setting rather than working on decontextualized assignments. (from the FCIT TIM website)* The levels of integration could range from students completing assignments unrelated to the world around them to integrating tools to content specific standards. However, the most transformational way to enrich students in authentic learning is "Students explore and extend the use of technology tools to participate in projects and higher order learning activities that have meaning outside of school. Students regularly engage in these types of activities that may have been impossible to achieve without

technology." (FCIT TIM website) The emphasis here is that the learning objective could not have been reached without the assistance of technology.

You'll notice in our classroom now, Ms. G is standing back allowing students to explore the world around them. Some students are looking out of the metaphorical windows to identify how their tasks can relate the real world (either locally, or globally). Other students are researching via tools of their choices for ways to integrate Science, Technology, Engineering, and Math into their learning objectives. While some students are intrinsically motivated to create an authentic hands-on solution to a world-wide problem. Can you think of what tools your students could use if this were your classroom to become authentic with their learning?

In a moment we will pause to go back to the Technology Integration Matrix website. You're welcome to read more about the levels of integration. Please choose at least one video to watch which sparks your interest. You'll notice these videos are categorized by the levels of technology integration for the Authentic learning environment. Feel free to take notes as you get idea of how to enhance technology usage in your classroom. (You may pause now).

Slide 10:

Goal-Directed Learning environments are when "*Students use technology tools to set goals, plan activities, monitor progress, and evaluate results rather than simply completing assignments without reflection." (from the FCIT TIM website).* The levels of integration could range from students being told and guided with exactly how to complete the task step by step, along with feedback, and redirection via technology being integrated by teacher. However, to enrich the technology being integrated, instead of simply following procedures, allow students to use technology regularly to set goals, plan activities, monitor and reflect on their own progress, and evaluate results of their learning. For transformational learning, students should not be able to complete their metacognitive activities without the technological tool chosen.

You'll notice in our classroom now, Ms. G continues to be a guide on the side because she has plans and procedures in place which allows the students the freedom to engage in technology for goal directed learning in unconventional ways. Frequently within the goal-directed learning environments a variety of organizational tools such as charts and calendars are utilized. Can you think of what tools your students could use if this were your classroom to become more goal-oriented with their learning?

In a moment we will pause to go back to the Technology Integration Matrix website. You're welcome to read more about the levels of integration. Please choose at least one video to watch which sparks your interest. You'll notice these videos are categorized by the levels of technology integration for the Goal-Oriented learning environment. Feel free to take notes as you get idea of how to enhance technology usage in your classroom. (You may pause now).

Slide 11:

Now that you have analyzed the five learning environments of the Technology Integration Matrix, you will decipher the learning environment and level of technology integration that could best meet a standard based lesson.

You have viewed several video examples, taken notes to reflect on how the five learning environments could be integrated into your teaching at various level of integration, and now

you will apply this understanding to a lesson you plan to teach within the next week, or a lesson you have already taught within the past week.

Your focus question when choosing and analyzing your lesson is: How can you replace, amplify, or transform the lesson using the TIM learning environments and technology integration?

Slide 12:

Once you've reflected and indicated the identified learning environment chosen, and level of technology integration chosen for your lesson, please use the website below to share your learning. There will be approximately 10 questions both written response and Likert-scale satisfaction questions.

I greatly appreciate your time and attention today while we discussed the Technology Integration Matrix with the RAT framework to improve our learning environments and technology integration. I look forward to improving the course through your direct feedback!

This is Amanda Glover of Techy Teacher Trails, signing off! Happy Learning!