6 Steps to Creating a STEAM Classroom

Susan Riley | February 2016

One of the most common questions I’m asked is how to create a STEAM classroom and break down the process. Putting together a single STEAM lesson is one thing, but trying to use the approach with consistency and integrity can be a challenge. After all, STEAM isn’t just about 3-D printing and Lego Labs. It’s an intentional connection between naturally aligned STEM and Arts Standards.

So you can use the approach in ANY STEAM classroom, but the question remains… how?

There are actually 6 steps to creating a STEAM-Centered classroom, no matter what area you teach. In each step, you’re working through both the content and the arts standards to address a central problem or essential question.
6 steps to creating a STEAM-CENTERED CLASSROOM

01 FOCUS
IDENTIFY
the problem or essential question.

02 DETAIL
OBSERVE & DOCUMENT
elements that contribute to the problem or question.

03 DISCOVER
RESEARCH
current solutions.
TEACH/LEARN
skills needed to address the problem or question.

04 APPLY
CREATE
a new solution or composition using your skills, processes and knowledge.

05 PRESENT
SHARE
your ideas/solution with others.

06 LINK
REFLECT
on others' suggestions and your own process.
REVISE
your solution or composition as needed.

Let's BREAK IT DOWN
What’s great about this process is that you can as easily use it to help plan for a lesson as you can to facilitate the actual learning process in your STEAM classroom. Let’s take a look at each step.

1. **FOCUS**

In this step, we’re selecting an essential question to answer or problem to solve. It’s important to have a clear focus on both how this question or problem relates to the **STEM** and the Arts content areas you’ve chosen.

2. **DETAIL**

During the detail phase, you’re looking for the elements that are contributing to the problem or question. When you’re observing the correlations to other areas or why the problem exists, you begin to unearth a lot of key background information, skills or processes that students already have to address the question.

3. **DISCOVERY**

Discovery is all about active research and intentional teaching. In this step, students are researching current solutions, as well as what ISN’T working based on the solutions that already exist. As a teacher, you can use this stage to both analyze the gaps your students may have in a skill or process and to teach those skills or processes explicitly.

4. **APPLICATION**

This is where the fun happens! After students have dived deep into a problem or question and have analyzed current solutions as well as what still needs addressed, they can begin to create their own solution or composition to the problem. This is where they use the skills, processes and knowledge that were taught in the discovery stage and put them to work.

5. **PRESENTATION**

Once students have created their solution or composition, it’s time to share it. It’s important that the work is presented for feedback and as a way for expression based on a student’s own perspective surrounding the question or problem at hand. This is also an important opportunity to facilitate feedback and help students learn how to give and receive input.

6. **LINK**
This step is what closes the loop. Students have a chance to reflect on the feedback that was shared and on their own process and skills. Based on that reflection, students are able to revise their work as needed and to produce an even better solution.

About the Author

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Susan Riley is the founder and CEO of The Institute for Arts Integration and STEAM. She focuses on teacher professional development in arts integration, STEAM, 21st century learning skills, and technology. She is also a published author and frequent presenter at national conferences on Arts Integration and STEAM education. Susan holds a Bachelor of Music degree in Music Education from the prestigious Westminster Choir College in Princeton, NJ and a Master of Science in Education Administration from McDaniel College in Westminster, MD. She lives in Westminster, MD with her husband and daughter. Email Susan