

Weekly Reflections and Connections

Educator: John Mirth, Professor, Mechanical Engineering

Context: Out of class; Material Science

Keywords: connecting learning

Student Activity Time: 1-2 hours outside of class

Each week of the course, students reflected on their learning in class by making connections between class information, labs, and course objectives.

Introducing the Reflection Activity

Twice a week, in an upper-level Material Science course, students listened to lectures before attending a lab session. This unique class structure was followed by weekly reflections. The purpose of these reflections was to support students in making connections between course content across the quarter.

On the first day of the course, the educator introduced the weekly “reflections and connections” assignment. In these reflections, students used a provided template to write short weekly reflections (about 300 words) on connections between weekly class information, labs, and course objectives. In these reflections, students responded to these prompts:

1. Connections between weekly topics (on-line lectures) and course objectives. Briefly explain how the current weekly topics relate to the overall course objectives.
2. Connections between the current week’s lab and current/past topics. Briefly explain how the current lab ties into current or past information presented in class.
3. Connections between the current week’s topics and past labs. Briefly explain how the current week’s topics might explain parts of previous labs conducted.

At the end of every week, students submitted their reflections on the class learning management tool. Then the educator read the reflections for grading purposes. In grading the reflections, the educator responded with a great level of detail. The weekly reflections were an important component of students’ grade in the class, accounting for 240 of the 775 class points, or about 30% of their final grade.

In terms of outcomes, there was potential for students to realize connections between course content and to organize their knowledge.

Recreating the Reflection Activity

	Description
1	Introduce the reflection activity to the students.
2	Grade the reflections using a level of detail and examples approach.

In the words of the Educator: Tips and Inspiration

Be aware that the reflections give you important insight into student learning. What I like the best about it, is that each week, I can see what the students are learning. It is also an opportunity to correct any misconceptions or catch students who are going down the wrong track.

What was the inspiration for the reflection activity? There were two motivators to implement a big reflection component in the course. First, last year I taught this course in a traditional lecture style and it wasn't as successful as I would have liked. I had expected students to take notes and they did not, they were sitting there looking terribly bored. Second, the course content is so interconnected and there was an opportunity for students to better understand these connections. This year they are more engaged in the lab, and they are asking questions -- good questions. So, the environment is pretty different than last year because you're in the lab doing stuff, exploring, and looking at samples.