September 18-22, 2017

Lesson Reflection – Cells Quick Draw (warm-up) and Cell Analogy Activity

I chose two pieces this week that I thought helped in showing student growth for the lesson of unit 1 section 3: cells. In addition to student growth, this piece also demonstrates my leadership and diversity as a teacher. This week students completed section 2 of the unit and moved on to section 3, cells. This section went into more detail about different cell structures, as well as how we classify cells as being prokaryotic or eukaryotic.

The first piece that I chose demonstrates prior knowledge. The activity, “Cells – Quick Draw” was to briefly and informally assess student knowledge. This 5-10 minute warm-up activity allowed students to use their notes and work with a partner to show understanding from the previous section on cell types and draw/label the different cell types. As can be seen from the student example, many of the students were able to answer characteristics about the two cell types, but many of them were unable to recall what the cells looked like and certain cell structures within those cell types. From this information, I could understand my pacing for the lesson and that concepts would need to be explained in different ways to help enhance student understanding. From this small activity, I could continue to build on my diversity as a teacher and further developing myself as a learning theorist as well as a curriculum designer.

The second piece that I chose is ultimately what demonstrates student growth for this lesson. The “Cell Organelles and Analogies” Activity has students compare their [animal] cell to something larger like a house, school, mall, etc. The same student I chose for the first piece was also selected for this piece as well as one additional student to show how student work varies on this assignment. From this piece, it is evident that students now how a better understanding of the cell, cell structures, and how things work together. Students were to look at the cell structure (the organelles within), explain the organelle’s function in the cell, and then relate that structure to whatever larger building or example they chose. I believe that this activity helps to showcase my ability and continued growth as an expert in school content. Many of the students chose a similar building to compare a cell to. However, the diversity was present in the assignment to allow students, or groups of students the opportunity to showcase their creative side or share something about their lives that may not have been known. Both students show understanding in how each of the cell parts function and can relate to a bigger picture. The second student also shows there is still growth and improvement that can be made. With the entire class this assignment was spot checked, then gone over as a class. If many students showed confusion with something I would explain it further. If only a few students are demonstrating confusion, I will specifically ask them if they need help. I will also stress certain structures to the whole class as not to single out one student.

Each of these pieces could be used by students to study for their formal assessment which was composed of multiple choice, matching, and cell labeling.

Lesson Plan – Period 5: General Biology

Unit **:** One – Characteristics of LifeSection:Three

Lesson Title: Cells

Date(s)9/19/17 – 9/21/17

Grade Level: 10

Time allotted: 1h. 30 minutes (2- 45 minute class periods)

Objectives:

The students will be able to:

* Compare and contrast the cellular structures and degrees of complexity of prokaryotic and eukaryotic organisms.

Standards: (NGSS Standards & Keystone Anchor Descriptors)

**BIO.A.1.1** = Explain the characteristics common to all organisms.

* **BIO.A.1.1.1** = Describe the characteristics of life shared by all prokaryotic and eukaryotic organisms.

**BIO.A.1.2** = Describe relationships between structure and function at biological levels of organization.

* **BIO.A.1.2.1** = Compare cellular structures and their functions in prokaryotic and eukaryotic cells.

Materials:

* Apple TV hook-up to project handouts while explaining
* Vocabulary Sheet – section 3 assigned
* Guided Notes – Cells
* PowerPoint – Cells
* Activity – Cell Analogy
* White Board
* Markers
* Pens/Pencils

Pivotal Questions: (Engage/Extend/Evaluate)

* Is a cell biotic or abiotic?
* Give an example of a unicellular organism and a multicellular organism.
* What are two structures prokaryotes and eukaryotes have in common?
* What is the major importance of different organelles in the cell?

Procedures: (Explore)

TUESDAY

* Students completed a lab on Friday. This lab is a good basis for this lesson. The post-lab will be reviewed in the first 10 minutes to engage students.
* Before the start of the lesson the instructor will give students the worksheet “Cells – Quick Draw”. Students will be instructed to look back in their notes to try to list characteristics of prokaryotes and eukaryotes and see if they are able to draw and label the cells. This will help informally assess student knowledge about the complexity of cells.
* Students will then be asked a warm – up question, “Is a cell biotic or abiotic” before starting the notes. This will help address where students understanding lies. It is also a small review of the last section (3 minutes)
* As a class, the notes will be reviewed with the aid of the PowerPoint (this will take about 50 minutes total between two days)
	+ Throughout the lesson there are points where students will be asked to stop and think about the material and answer a “check for understanding” question. Students will be given 1-3 minutes to answer the question. The question will be discussed for another 1-3 minutes before moving on with the notes.

WEDNESDAY

* The notes will be completed, again, stopping at the check for understanding questions.
* Students will receive the Cell Analogy activity. They will work individually or in pairs to complete this activity relating the cell and its parts to a “bigger picture”. If not finished students will be instructed to finish this for homework. This worksheet will show student understanding of cell parts, informally.

Assessment(s): (Evaluate)

* Informal assessment –
	+ Students will be asked questions throughout the lecture to make sure they are grasping the material
	+ Students will also be informally assessed on prior knowledge by completing the “Cell Analogy” activity
* Formal Assessment -
	+ There will be a formal assessment at the end of the section three material. This lesson was only the start of the material.

Homework/Activities: (Extend)

* Students will be assigned the vocabulary for section 3 of unit 1. The terms can be found in their book or with any other reliable resource.

Accommodations/Adaptations/Modifications:

**Adaptation –** Students will be working in groups for the activity. Modified copies of the worksheets are available for ELL students and those with specifications needing them. Further modifications and accommodations will be provided upon request following specifications indicated in 504 or IEP documentation.

In regards to any assessments students are given a full period for the quiz. If extra time or other modifications are needed they will be provided to the student on an as needed basis in accordance with a 504 or IEP.

Self Evaluation: **See attached.**