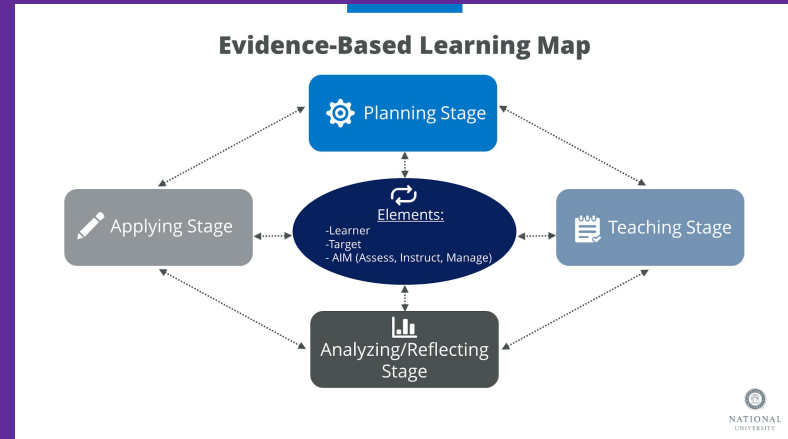


Learning Map: Analyze, Reflect, and Apply

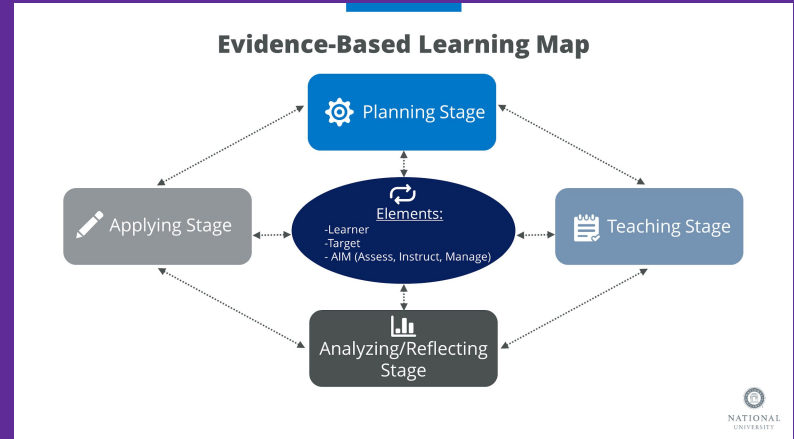
Sarah Ashley Shirey

National University
ITL 522

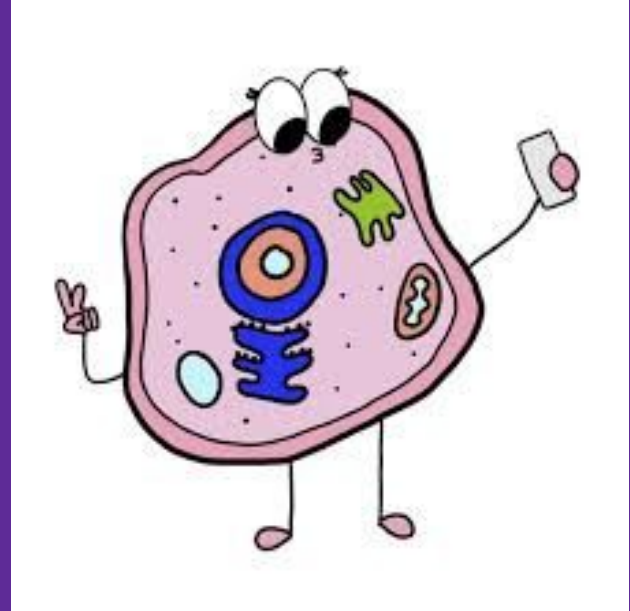


During week two, I discussed a lesson plan about cells, organelles, and the function of those organelles. While doing my field experience for this class, I was unable to teach that lesson due to the teacher's schedule. However, I did have the opportunity to teach this series of lessons last year as a long-term sub. Therefore, I will be analyzing, reflecting, and applying what I learned and observed from that specific teaching experience. The demographics listed are from one of my actual classes as well as the focus students mentioned.

Introduction



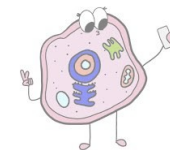
Cell-fie Time



7th Grade Life Science

NGSS

Lesson Plan Key Points and Standards



NGSS-MS-LS1-2

Develop and use a model to describe the function of a cell as a whole and the ways parts of cells contribute to the function.

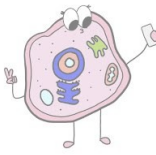
- **Science & Engineering practices:** Developing and using models
- **Disciplinary Core Ideas:** LS1.A: Structure and Function: How do the structures of organisms enable life's functions?
- **Guiding Question:** To develop and use an accurate model of the cell.
- **Crosscutting Concepts:** Structure and Function: Understand the difference between the structure of a cell and its parts and the functions of each individual part.

CCSS.ELA-LITERACY.SL.8.5

Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

CCSS.ELA-LITERACY.RST.6-8.7

Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).



Lesson Plan Overview

Day 1: “Do you know Cells Well?” Worksheet and discussion, Homework “Anatomy of the Cell” handout read and Annotate.

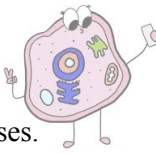
Day 2: “Building Blocks of Cells” worksheet, “Organelle Card Sort”

Days 3-4: Group Project - “Organelle Functions Project” - Google Slides presentation

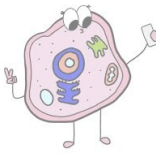
Days 5-6: Presentations of “Organelle Functions Project”, Study for quiz

Day 7: Review Cells and take Quiz

Classroom Demographics



- This classroom is a general education science class that consists of resource students who have mainstreamed into general education classes. There are thirty-three students in this class, six of whom have IEPs. There are also two students in the class who are English Language Learners (EL) who would be considered to have a bridging level of proficiency when it comes to their reading levels. This means that these students occasionally struggle with understanding vocabulary words as well as making connections between activities and the material we are covering.
- Three of the students with IEPs have Specific Learning Disabilities (SLD). These students need additional support when interpreting directions and generally take longer to complete their work. One of the students with SLD is an EL student who was mentioned above.
- One student with an IEP is Deaf and Hard of Hearing (DHH). This means that the teacher has to wear a Bluetooth microphone clipped to their shirt to help the student hear what is being taught. It is also beneficial for this student to sit in the front of the classroom so they can easily see when the teacher is speaking to the students.
- There is a student with an IEP who has Autism Spectrum Disorder (ASD). This means that this student struggles to understand social context. This manifests by continual interruptions or inappropriately-timed comments throughout class. This student's goals also state that any assignment completed may be done with the use of technology. This means he is allowed to type answers to worksheets rather than write them down.
- The last student with an IEP has a qualifying diagnosis of Other Health Impairment (OHI). Additionally he has an ADHD diagnosis. This student reacts emotionally to most social interactions as well as academic struggles. He is easily upset by what he interprets as negative interactions with peers. He has accommodations that allow him to take exams in separate rooms from the rest of the class with assistance from an instructional assistant.
- In addition to these six students with IEPs, there are twenty-seven general education students. Four of these students tend to be disruptive and distracting to the others in the class. However, these students are still friendly and easy to talk to and reason with. Overall this class has groups of students that work well together when doing group projects despite their tendency to be distracting and easily off task.



Focus Student #1

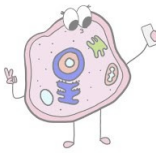
Special Needs (IEP) DHH

Student is DHH. He has cochlear implants so that he is able to hear while at school but can oftentimes miss instruction. If he is distracted by a fellow student it can be easy for him to not realize that the teacher is talking. Due to occasional missing information, it can take him longer to complete the work that needs to be done. Additionally, he can occasionally miss information relating to due dates.

In order to ensure participation and understanding, the instructor will do the following:

- During instruction time, student will be seated at the front of the class to be closer to the teacher.
- Teacher will wear Bluetooth microphone that connects directly to hearing aid so that he can hear what is being said.
- Teacher will constantly ask check questions to ensure comprehension.
- Teacher will check that the student is looking before beginning instruction. Sometimes this can be accomplished by making eye contact. Other times this may need to be done by tapping the desk to get him attention before beginning instruction.

Focus Student #2



Special Needs (IEP) ASD

Student was recently diagnosed ASD at the beginning of the school year. He was attending a private school before this year and had no formal diagnosis. His previous teachers were becoming overwhelmed and frustrated with the inability to handle him and his behaviors. Therefore, he and his new teachers are constantly having to adapt to changes and different goals that have been set due to new understandings of his needs. Student struggles with social interactions and occasionally speaks at inappropriate times during class. He is unable to assess the reactions of the other students when he speaks out of turn or discusses things that are off topic. Student oftentimes refuses to complete work and does not stay organized in order to keep track of his work.

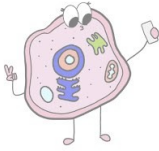
In order to help him succeed in class, several accommodations and specific adjustments have to be made in class:

- Because of his lack of social skills, he struggles to find groups to work with on projects. Therefore, the instructor will help to assign a group of students who can work easily with him.
- Teacher needs to ask student at the end of each class to see his planner and check that he has his homework written down. This is part of his goals set to keep him organized.
- Because this student often refuses to do work, he is allowed to use technology to type his responses to worksheets and other work that needs to be done in class.
- If this student is struggling in class to complete an assessment, he may go to another room with an instructional assistant to complete the assessment.

Analysis & Reflection



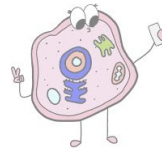
Analysis of Learner Achievement



The target for this lesson involved working with and understanding the model of a cell as well as learning the functions of different parts of the cell. The students excelled at being able to quickly associate different functions with specific organelles. However, sometimes it was hard for some of the students with special needs or EL students to truly understand what each function meant. Some of the students may have needed further explanation for the meanings of cells as a whole.

The quiz and presentation assessments showed that the majority of students were able to understand and access the key targets of the curriculum that were presented. The focus students were able to achieve desirable scores with some extra help from the teacher as well as additional students who reached out to them.



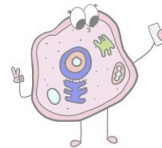


Insights about Learner Achievement

Even though the students had a group project to work on and lots of information to tie things together, the project may not have helped retention of the material as much as desired. Within the groups, students were able to split the work up. This meant that some of the students were not seeing all of the information on their project. Therefore, they were missing some significant information that they would have to review later on.

EL students may need some additional help in understanding the meaning behind some of the functions that were presented for the organelles. Some of the vocabulary words that may seem obvious in the function may still need some clarification.





How will this transform my thinking?

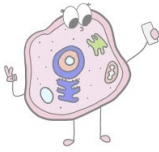
Learner Achievement:

Assumptions cannot be made about student understanding when it comes to learning definitions of specific scientific principles.

One big test at the end of a series is not going to necessarily give me all the insight I need in order to see how well my students are accessing the curriculum. This is especially true for students who have IEPs and EL students who have specific goals that need to be met. The next time I will need to make a diligent effort to stop and check for understanding and the need for reclarification more throughout the lesson.



Analysis of Teaching Practices and Beliefs

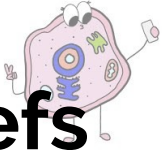


My teaching practices and beliefs are strongly centered towards building *relationships with my students*. I believe that knowing my students well and forming connections with them helps them grow and learn better. This makes including things like UDL significantly easier when you can actually understand the best way your students learn.

Because of these beliefs, I feel like with this lesson, I had several opportunities to talk with students and see where they were struggling with the material. While they were doing the card sort activity, I had ample opportunity to walk around the classroom and check their level of understanding. Also, with the presentation, I felt like I was able to talk with individual students several times to check in on how their project was coming along. Giving a presentation can be very scary for a student and for some of them this was their first time speaking in front of a class. Therefore, I tried to provide a comfortable space for them.



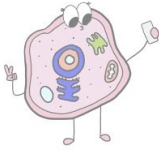
Insights about Teaching Practices and Beliefs



Generally speaking, most introverts are not comfortable with public speaking. However, I have not struggled with that as much as most and have overcome some of those fears myself. Through my understanding of various personalities and having a project where the students were giving presentations for the first time, I realized that public speaking can be a very scary thing students. Therefore, building a relationship-focused classroom and providing a brief time for discussing my students' fears appeared to positively benefit many of my students.



How will this transform my thinking?

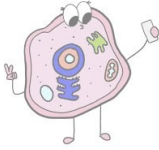


Practices and Beliefs:

This open-ended discussion about presentations could help students understand and reflect on why presenting in front of a classroom seems so intimidating to them at first. This type of discussion could offer future opportunities for getting to know my students on a deeper level and strengthen the relationships with them that I have already built. Hopefully because of a discussion like this, students might not struggle even in future classes.



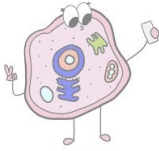
Analysis of Targets and Objectives



The target for this lesson was to understand the function of the cell as a whole and understand the individual parts and their functions as well. I believe that we spent a significant amount of time during this lesson discussing the functions of the parts of the cells. The students learned a lot about the key organelles and their functions.



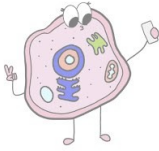
Insights about Targets and Objectives



The key target for this lesson was two-fold: the students needed to understand the cell as a (1) whole and (2) understand the individual parts (organelles). After looking back on the lesson, I believe that we were able to spend a lot of time discussing the organelles as individual parts but not as much time on the whole. We differentiated between animal and plant cells during our online activity, however, not much time was spent on the cell as a whole aside from that.



How will this transform my thinking?

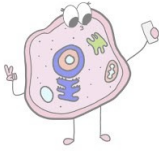


Targets and Objectives:

Sometimes as I am teaching, I get caught up in the big picture (idea) of the topic that I am covering. This means that sometimes I can lose track of the goal or objective. Therefore, I need to reflect and make sure that I am checking in with myself to see if I have helped the students reach the target(s) that we established. As Provenzano (2011) states, “reflection is vital to my growth as an educator...It’s so much more than thinking that I did a good job or changing one essay question.”



Analysis of AIM



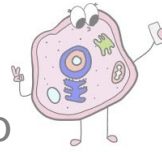
Assessments: This series of lessons had two main formal assessments in the presentation and the follow-up quiz. However, there were many informal assessments along the way within the class discussion and group activity.

Instruction: Instruction time during this activity was slightly limited due to the nature of the group project and the sorting activity. This meant that a lot of the learning for this series was self-directed.

Management: Due to the collaborative nature, the majority of this lesson was spent in groups while I checked in on the progress that the students were making on an individual basis.



AIM Cont.



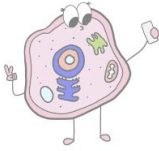
Social-Emotional Thriving: This lesson provided great opportunities for students to expand on their social interactions and grow emotionally. Focus student #2 specifically had to spend some time working with a team. He usually struggles with collaborative assignments. However, he was sorting cards with other students and participating in the group project.

Meaningful Academic Achievement: For most students, presenting can be scary and this was their first experience. It was really great to see the excitement of some students who were glad to have successfully completed the presentation and surprisingly enjoyed it.

Equitable and Inclusive Community: During this assignment, one particular student reached out to focus student #2 and ensured that he was included in their group. It was encouraging to see positive growth on his part as well as a mature response from the other student who reached out to him.



Insights about AIM



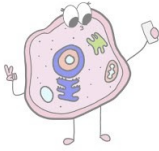
Assessment: While the formal assessment at the end was beneficial to see overall learning, it was hard along the way to gauge how well the students were retaining the information about the functions of the organelles.

Instruction: When the students have self-driven work they can oftentimes become easily distracted with other conversations and not cementing the information that they need to know.

Management: It can be difficult to check in with every student on self-directed activities while also trying to maintain the academic environment and prevent distractions.



How will this transform my thinking?



Assessments: In the future, I may try to include several more formal check ins with the students to see how they are retaining information.

Instruction: This would give me the opportunity to add more instruction time to help with any confusion the students may have. This could include more time to go through and discuss the “Anatomy of a Cell” article and ask the students what they learned from it as well as identify any points of confusion. This could even be done through a Google form questionnaire.

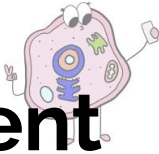
Management: Keeping students on task more easily could be managed by potentially assigning a group leader to remind kids to stay on task. This would mean that not all the management would have to fall on the teacher’s shoulders.



Apply



Applying Insights about Learner Achievement

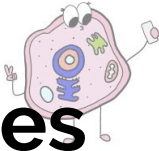


Social Emotional Thriving, Meaningful Academic Achievement, & an Equitable Learning Community:

Giving a presentation in front of peers can be an intimidating and scary prospect. Spending some extra time talking about how all of us struggle with that sometimes can let students know that they are not alone in their fears. When they understand this, they will be better equipped to succeed at whatever project they are facing. This will allow students to feel like future projects may be less scary. Being able to look at future projects more confidently will make what they are learning have a more lasting impact. As a teacher, I can give students those opportunities to discuss the big things that may seem intimidating at first.



Applying Insights about Beliefs and Practices

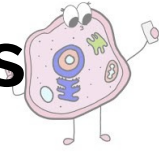


Future Instruction:

Seeing how beneficial a few brief discussions about the fears of presenting were, I believe that in the future I may set aside time specifically to talk about what students should be expecting when presenting. This would give me opportunities to have deeper conversations with students about what their fears are, etc. Seeing that I am open to having these discussions could open up opportunities to strengthen the relationships even further with my students.



Applying Insights about Targets/Objectives

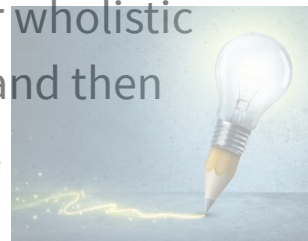


Standards & Goals:

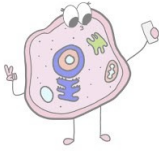
If a standard has more than one key component, I need to ensure that all the aspects of that standard are being met within the parameters of the lessons that I am teaching. This means that I will be checking that I am meeting those standards throughout the series of lessons.

Future Instruction & Subject Matter Knowledge:

Next time I teach this lesson, I may put more emphasis on the whole cell and not just the individual parts. When we get to the body systems, I know that we will talk about the different types of cells within those systems and a little more about their **wholistic** function. Therefore, I may just spend some brief time introducing that idea and then telling the students how we will cover that more in detail during later topics.



Applying Insights about AIM



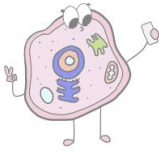
Assessing: More informal assessments can help to see how well students are prepared for bigger formal assessments. Keeping track of students' progress as the series of lessons go along can be helpful to determine their readiness for future assessments.

Instructing: Having more discussions about material that is read can help students connect the activities that we are doing in class to the scientific information that they have been reading.

Managing: Assigning table or group leaders for future collaborative work could help spread out the management among the people in the classroom. This would leave the teacher more time to answer academic questions rather than focusing on behaviors.



Applying Insights about Assessments

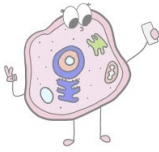


Informal Assessments, Formal Assessments, & Student Self Assessments: Create more meaningful ways of seeing student progress along the way. These informal assessments would allow the teacher to notice how the students are doing in their understanding of the material. This also means that students who have special needs and EL students could show where they have gaps in their understanding.

Have the students fill out Google Form “Exit Tickets” in the day prior to the quiz. This could give me the opportunity to see how much the students feel like they still need to learn before the quiz. I could use this data to then determine how much review of instruction they may need before the formal assessment.

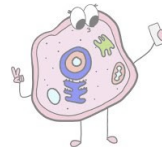


Applying Changes to Planning



When planning for this series of lessons, I did not allow for much additional time to go through the “Anatomy of the Cell” worksheet. I think that in the future I would give myself an additional day. This would open up more discussion and allow students to ask clarifying questions about the definitions of the different parts of the cell. This extra time would also allow me to add in some informal assessments and some “Exit Tickets” to better gauge how well the students are understanding the material. Sometimes it is easy to plan the different activities and be excited about the projects. However, I need to make sure that I am providing the flexibility and extra time for myself and my students to check and see that we are on the same page during the learning process.





References

Provenzano, N. (2014). The reflective teacher: Taking a long look. Edutopia. Retrieved from <https://www.edutopia.org/blog/reflective-teacher-taking-long-look-nicholas-provenzano>