Final Group Project Lesson Plan

Classroom-Based Assessment for ELL Students

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**Introduction**

English Language Learners (ELLs) are the fastest growing segment of the public school population. Over the past 15 years, the number of ELL students has nearly doubled—to about five million. English Language Learners face unique challenges. Like all children, ELLs have to learn history, math, reading, science, and other subjects. They also have to learn a new language at the same time, all the while competing with native-English speaking peers who are rapidly increasing their knowledge of both the English language and academic subject matter. Those challenges are not easy and we owe it to these children to ensure that the lessons we teach offer the language support and appropriate adaptations to provide them with the education they need and deserve.

For our lesson plan, we decided to focus on third grade. Our rationale for choosing the third grade is because most members of our group want to teach (or are currently working with) third grade students. We will be teaching a third grade science lesson on the phases of the moon. Our group wanted to choose an activity that was interesting to us and one we could apply to the students’ lives. There are also several hands-on activities teachers can do with students to teach them the phases of the moon; including how the sun affects each phase.

When searching for lesson plans to use, there were a variety of options. We each found unique and creative lesson plans which would all be a good choice to use in the classroom. Since we had several options and some of the options would only require a few minutes of instruction, we combined some of the activities into one lesson plan. This would give the students multiple ways to learn about the moon phases and how the sun affects the appearance of the moon. Our final lesson plan we created is beneficial for all students in our classroom. The U.S. Department of Education stated that teachers need to “ensure that the development of formal or academic
English is a key instructional goal for English learners, beginning in the primary grades” (Echevarria, 2009, p. 28). In order to ensure our students learn the proper and academic English in our lesson, we have a list of vocabulary words, which we will cover during our lesson. We also have our language objectives, which will require students to use the English language in specific ways.

When selecting our assessment, we wanted to make sure it was authentic. An authentic assessment is used “to describe the multiple forms of assessment that reflect student learning, achievement, motivation, and attitudes on instructionally-relevant classroom activities” (O’Malley, 1996, p. 4). The type of authentic assessment we have chosen is a performance assessment. Performance assessments “require students to accomplish complex and significant tasks, while bringing to bear prior knowledge, recent learning, and relevant skills to solve realistic or authentic problems” (O’Malley, 1996, p. 4). Performance assessments essentially allow the students to complete activities that are hands-on. Our chosen authentic assessment requires students to create the phases of the moon using Oreo cookies. Students will be given eight Oreo cookies. They will then need to create the eight different phases of the moon using the cream filling inside. For example, if the student is creating a half moon, they will remove half of the cream filling. The remaining cream filling represents the portion of the moon we see from earth. The students will do this for all eight phases of the moon, label each phase with the appropriate name, and place them in the correct order. We chose this assessment model because it is hands-on, creative, can easily be adapted to different levels, and all students can do the same assessment.

Knowing we would have students on different levels in our classroom, we needed to make sure to adapt our assessment to our students. We needed to “make appropriate adjustments
to the assessments to ensure that the assessments allow for differences in academic language, yet continue to measure the same [academic content standard]” (Columbo & Furrush, 2009, p. 148).

As a group, we discussed the English proficiency levels we would like to focus on when adapting our lesson plan and assessment. We decided to provide differentiation for level one (L1) - entering ELL students and level four (L4) - expanding ELL students. These levels were identified through the World Class Instructional Design and Assessment (WIDA).

WIDA is an important model for teachers to use. “An important feature in the WIDA standards framework is an explicit connection to the state content standards” (WIDA, 2012, p. 4). This is important because WIDA helps teachers understand how to teach content to students at different levels of English proficiency. When looking at both, third grade science and our two desired levels, there is a list of things that the students are required to do. The L1 students are expected to: identify objects, illustrations, symbols, or words by pointing or naming; match and label pictures and words; follow one-step directions; and sort objects or illustrations within words into groups. The L4 students are expected to: explain processes or procedures with extended discourse/paragraph; produce original model, demonstrations, or exhibitions; summarize and draw conclusions from speech and text; construct charts, graphs, and tables; discuss pros and cons of issues; and use multiple learning strategies. During our lesson, we try to address several of these objectives which WIDA highlights.

When looking into the adaptation of the Oreo cookie moon phase assessment, we had to consider what each ELL level would need. The mainstream students are required to remember the eight phases of the moon, identify the correct name of the phase, and place the Oreos in the correct order of which the phases exist. For our L1 students, we decided they would receive the assessment with the names of each phase inside each circle. All these students need to do is
change the cream filling on each of their eight Oreos and place the Oreo where it belongs in the cycle. This adaptation requires the students to identify the eight phases and place them in the correct spot. For the L4 students, we would provide a list of the phase names for the students on top of the assessment page. They would be required to place those names in order and then change the cream filling in the Oreos to match the correct phase name. The adaptation gave the students some scaffolding by giving them the names of the phases, but it allowed them to show their knowledge about the order the moon phases are in.

Having presented the assessment of our lesson plan, we will now provide our full lesson plan. You will be able to see what materials are required and the steps that need to be taken to teach this lesson plan. We will also present our lesson plan with what has been modified for our entering and developing student’s English language proficiency knowledge. Through our description of the adaptations, you will see how the activities chosen in this lesson support our ELL students. All of the adaptations made to the original lesson plan for ELLs will be indicated through red text. Note: The term ‘record’ implies writing or drawing, depending on the need of the ELL.
Lesson Plan: Phases of the Moon

(Edwards, 2002)

Preparation: Content and Language Objectives

Time Limit: One class period of 60 minutes

Content Objectives: Science - 3rd Grade

- Standard 1: Students will understand that the shape of Earth and the moon are spherical and that Earth rotates on its axis to produce the appearance of the sun and moon moving through the sky.
  - Objective 1: Describe the appearance of Earth and the moon.
    - a. Describe the shape of Earth and the moon as spherical.
    - b. Explain that the sun is the source of light that lights the moon.
    - c. List the differences in the physical appearance of Earth and the moon as viewed from space.
  - Objective 2: Describe the movement of Earth and the moon and the apparent movement of other bodies through the sky.
    - a. Describe the motions of Earth (i.e., the rotation [spinning] of Earth on its axis, the revolution [orbit] of Earth around the sun).
    - b. Use a chart to show that the moon orbits Earth approximately every 28 days.

Language Objectives:

- Students will be able to write in their science journals individually about how the sun affects the light on the moon.
PHASES OF THE MOON LESSON PLAN

- L1 students, give them an opportunity to talk with their group about what they observed. They might not understand exactly why the sun has an affect on the moon. Drawings will be acceptable.
- L4 students, let them share their findings with a partner in order to make sure they fully understand what they are observing.

- Students will be able to discuss the phases of the moon and use the phase names to correctly show the lunar cycle.
  - L1 students will be provided phase names on the assessment paper.
  - L4 students will be provided with a list of phase names to use as a reference.

Materials:

- An orange (or ball that size)
- Piece of foil which will cover the orange
- Flashlight
- Science Journals (pencil and paper)
- 28 Day Chart
- Access to NASA (will be done as a class)
- Oreos
- Charts to place Oreos on (which include the alternative charts for L1 and L4 ELL students)

Background for Teachers:

The moon is the only known natural body in space that travels along with Earth in its orbit around the sun. The moon is closer to Earth than any other known natural object in space. The
light we see from the moon at night is light reflected from the sun onto the moon. The closeness of the moon, and the amount of sunlight it reflects to Earth, makes the moon the largest and brightest object in the night sky. The moon is often bright enough to be visible through the day as well. It was only natural that early civilizations would be fascinated by the moon, and curious about its trip through the sky. Many thought the moon was a god, or the home of a god. Even the word "lunar" comes from the Roman moon-goddess Luna, and is a word we use often to describe things about the moon. The spacecraft that landed people on the moon was called the lunar module.

**Students’ Background Knowledge:**

This lesson is part of a comprehensive unit on the moon where the students have previously learned the earth and the moon are spherical. Students also understand the sun is a star that gives the earth sunlight. Students also have access to flip charts and other aids for this comprehensive unit.

**Vocabulary Terms:**

appearence, moon, sphere, phase, rotation, revolution, axis, orbit, reflection, crater, crescent, gibbous, waxing, waning, full moon, new moon, lunar cycle.

When presenting the vocabulary, we will use as many visual representations (pictures or actions) of the term as possible. We will also review the terms frequently.

**Instructional Procedures:**

1. Review with students the concept that the earth and the moon are spherical. Remind them that the light that warms the earth and gives us daylight comes from the sun.
2. Pass out materials to each group. Groups will include a variety of skill levels. Discuss the importance of "models" and what they are. (A model helps us explain or show what happens with larger or smaller objects.) Tell them that today groups will be using the orange as a model of the moon to explain where the moon gets its light. The flashlight will be a model of the sun. Pose the question that the groups will be investigating and write it on the board: Where does the moon get its source of light?

   - Have students write the question in their science journals. Accept all predictions from each group that might be an answer to this question. Write (record) them under the question. Have students choose one they think might be the answer, or create one of their own and write (record) it in their science journal.

   - Tell students that each step of the investigation will allow them to make observations in order to find answers. They will need to write (record) their observations in their journals.

3. Each group will cover their orange or ball with foil. They can make it bumpy and with craters to look like the surface of the moon. Have them place it in the middle of a desk.

4. Turn off lights. (The room must be completely dark, without any reflected light.) Have each group discuss any observations they make. Does the moon shine? Why or why not? Where is the "moonlight" everyone talks about? Why does it stay dark?

5. Turn on lights and have students record their observations. What are their conclusions so far? Can we state that the moon does not make its own light? Has our investigation answered our original question yet?

   - L1 students, it might be hard for them to make those connections and write them down. Allow them to communicate with their group for insights.
6. Now turn the lights off once again, and have each group turn on their flashlight and shine it on the moon. Remind them the flashlight represents a model of the sun shining. Each group should discuss what they observe together. Does their moon look bright now? Does the sun light the moon? How does this take place?

7. Turn the light back on and have students record observations. **Always give L1 students an opportunity to use pictures and word banks.** Based on their findings, what conclusions can they reach to answer the original question? Were their predictions correct? Have questions written as well as read aloud. Always allow additional time for students if desired or needed.

8. Discuss what occurs when the sunlight hits the surface of the moon. When students describe what they see, help them understand the when sunlight bounces off the surface of something, it is called a reflection. Can they think of other times when light from something is reflected off a surface? (Headlights reflect street signs along a road, firelight from a campfire bouncing off someone sitting on the other side.)

9. Have all students write (record) a statement in their science journals that describes the sun as the source of light that lights the moon.

10. Show the phases of the moon and use the flashlight to show the students how the sun creates different amounts of light on the moon. Use the terms crescent, gibbous, waxing, and waning.

   - Have the students record their findings in their journal about the moon phases.

**Assessment:**

To assess the students about the phases of the moon, the students will be asked to manipulate the cream filling inside Oreo cookies to look like the different phases of the moon. Students will be
giving a paper that has eight circles on it with lines underneath each circle. Students are to identify each phase of the lunar cycle, which order the phases go in, and what each phase looks like. The students will write in the phase names and create the moon image using the Oreo cookies. The cream filling represents the part of the moon that can be seen during a specific phase. To grade this assessment, the teacher will fill out a rubric made specifically for each group of students.

- **L1 students** will receive the paper with eight circles on them. However, the circles will already have the phase names written in the correct order. Students will just be required to identify what the moon looks like at each phase and place the correct Oreo with each phase name.

- **L4 students** will receive the paper with eight circles on them. On the top of the paper, there will be a list of the different phases of the moon (in no particular order). These students will need to place the names of each moon phase in the correct order and then place the correct Oreo cookie above them.

**Extension Assignment:**

Students will have a blank moon calendar. For the next 28 days, the students will record the phases of the moon each night. Students are asked to observe the moon each night (if possible). They will come to class the next day and discuss what phase the moon was in. The teacher will look up the previous moon phase on the NASA website for all students to see. This will allow to students to see how the lunar cycle is a 28 day process. This activity will be mostly done together as a class but it gives the students an opportunity to observe the phases of the moon. **L1 students** are welcome to draw pictures and do their best to describe in words what they observed.
Application

When creating and adapting our lesson plan and assessment, we used Gottlieb's four-step process for designing classroom assessment. This four-step process includes planning, delivery, interpretation of results, and use of results for feedback (Gottlieb, 2006, p. 91). During the planning phase, we are to “(1) select academic content and language proficiency standards, (2) formulate content and language objectives, (3) match the content and language to the tasks or project, and (4) align assessment measures with instruction” (Gottlieb, 2006, p. 91). For our lesson, we selected what content we wanted to teach our students in the science category. We then created language and content objectives, established our lesson, and created an assessment that reflects what the students learned and the objectives created.

During the delivery phase, “teachers define the activities within the tasks that the students will engage in ... teachers decide how the students are to group” and design the activities according to the groups (Gottlieb, 2006, p. 94). Also, the delivery phase is when the teacher decides what adaptations will need to be included to accommodate all different levels of students. In our lesson plan and assessment, we took into account the L1 and L4 English language proficiency students. We were able to adapt certain aspects of the lesson and the assessment to their specific needs and capabilities. We also established the use of small group work into the beginning of our lesson.

The third phase is interpreting results of the assessment. “Peer or student self-assessment promotes student involvement in their own learning and provides built-in monitoring progress” (Gottlieb, 2006, p. 94). Students need to be able to interpret results of their assessment in a way that they understand. During our lesson plan, we had the students work in small groups. Students were to record their findings from the sunlight activity in their science journals. For the L1
students, they were allowed to communicate with their peers to make sure their understanding was correct. The L4 students were required to write down their findings and then discuss it with a peer to make sure they understood everything.

The fourth and final phase is the use of results for feedback. For our assessment, we decided to use a rubric to grade the students with. There will be three different rubrics since we have three different versions of the assessment. By using a rubric for the students, they can see exactly what is expected of them. The rubric also allows students to clearly see the areas that they need to improve upon. This method of reporting results is helpful to the students because it is easy to read and interpret. The results of the assessment will allow us to direct our teaching based on the feedback it provides. This is especially useful when teaching ELL students. It will identify the accommodations that worked, and those that did not.

**Discussion**

The assessment we chose for our lesson plan was designed to have students demonstrate their understanding of the phases of the moon. We chose a performance-based assessment, which allowed students of all levels to demonstrate their knowledge in a creative, fun, and hands-on assessment. Our focus in this assessment was to assess if students could identify the appearance of the moon at each phases. Other aspects being assessed were correct identification of phase names and the order of the lunar cycle.

Correct identification of phase names and the order of the lunar cycle guided the adaptations of our lesson plan. Because we wanted to assess students’ understanding of the moon’s image, we focused on that particular concept when assessing our L1 ELL students. This allowed us to see if these students could match the correct moon image with the correct phase name. For our L4 ELL students, we made the assessment more challenging, but provided a list of
phase names at the top of each of their papers for supplementation. They were expected to identify each name, the appearance, and the order. The mainstream students were assessed without any supplementary information. They were also required to demonstrate additional information: phases of the moon, order which those phases occur, and the appearance of the moon during each phase. Though creating these assessments may seem time consuming at first, they are worth the effort because they are so much more beneficial to the student, especially for those ELL students who may suffer from high anxiety levels under traditional testing situations. Using this assessment, we believe that students may be able to more fully demonstrate their knowledge of the content, allowing us to see their knowledge of science, not their limitations in English.

Other adaptations made during the lesson plan were specifically the journal writing portion. Students were asked to record their findings and thoughts from the experiment with the orange covered in tinfoil and the flashlight. Students were asked to do this individually. The L1 students were allowed to be paired with a student and discuss what they observed from the experiment. Each L1 student would first tell the other students what they saw/thought and then receive more information from their peers. L4 students were to record their findings and then discuss it with a partner. This adaptation differs from the L1 adaptation, because we believe the L4 ELL students are more likely to understand, apply the content, and share their own insights. The L1 students might be confused with the experiment and will become easily frustrated when they cannot write anything down about what they learned.

A recent article on teaching ELL students stated that we need to “make appropriate adjustments to the assessments to ensure that the assessments allow for differences in academic language, yet continue to measure the same [academic content standard]” (Columbo & Furhush,
This simply means we need to make adaptations that measure the same content objective/standard, but use different academic language or simplify what the student is assessed on. This is what we wanted to do with our assessment; test all students using the same content and method, but just change requirements based on our student's needs. Due to students all having different English proficiency levels, expecting them to all understand the same text is not reasonable. Through simplifying the assessment and placing it on a level in which each student can do it, will result in the best possible measurements of the students content knowledge about moon phases.

Another resource that affected how we adapted our lesson was WIDA. WIDA listed things that our students were supposed to be able to do at each English proficiency level in each subject. We found what the L1 and L4 students were required to be able to do and applied that to our assessment. The L1 students were required to identify the different phase images of the moon and match them with the correct phase name. There are very few directions which make it easier for them to understand what they are expected to do. The L1 students were expected to: identify objects, illustrations, symbols, or words by pointing or naming; match and label pictures and words; follow one-step directions; and sort objects or illustrations within words into groups. The L4 students were required to produce a replica of the lunar cycle while recalling on previous information they learned.

This assessment created is an informal assessment (or formative assessment), and should be used as such. The advantages of this assessment are that students are able to demonstrate their content knowledge with little verbal or written components. This allows the teacher to gain insights to the student’s level of understanding rather than their level of English proficiency. Many students have the knowledge but lack the English proficiency skills to demonstrate what
they truly know. The possible disadvantage is the lack of 100% reliability and validity. However, many tests are not able to reach that standard. Also students need to be assessed with multiple forms of assessment. A challenge to this assessment was identifying the fine line in which we would be giving too little or too many resources for ELL students to use, and whether or not the adaptations appropriate for each level. When we ask students to retain a fact or test an isolated skill we are not effectively measuring a student's full capabilities. If we want to accurately evaluate what a student has learned we need to use an assessment method that examines the student’s collective abilities. It was our goal to create a “form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills” (Mueller, 2012).

Conclusion

Through creating this lesson plan, we learned the importance of creating adaptations for our ELL students in the classroom. ELL students come into the classroom with different backgrounds and experiences from the other students. They may enter into the classroom understanding English and the academic concepts being taught or they might have a low level of English proficiency. Whatever the characteristics are of the students who enter the classroom, it is the teacher’s responsibility to create the necessary adaptations in order for the ELL students to understand both content and language. If adaptations do not take place for the students, they will struggle with learning the necessary academic content and showing what they understand on assessments.

Adapting lesson plans and assessments is important not just for the ELL students, but for all those who need it. It does not take long to review a lesson plan and make those necessary adaptations. If the teacher has a relationship with their students, he/she will know how to change
the lesson and assessment to benefit their students. Being able to adapt the lesson plan and assessment helped us to see the value of adapted lessons. We also learned if we have questions about what ELL students are suppose to know and do at each level, we can use the WIDA model to help us understand. WIDA provides great descriptions of what students should be able to do at the five different levels in all grades and in all subject areas. This activity allowed all of us to understand how to adapt lesson plans and create assessments for our ELL students, the importance behind it, and how we can focus on everyone in the classroom with simple adjustments.
References


