

Nevada Educator Performance Framework

Workshop Series Guide for SCIENCE Educators

STANDARD 1 New Learning is Connected to Prior Learning and Experience 1	STANDARD 2 Learning Tasks have High Cognitive Demand for Diverse Learners 2	STANDARD 3 Students Engage in Meaning-Making through Discourse and Other Strategies 3	STANDARD 4 Students Engage in Metacognitive Activity to Increase Understanding of and Responsibility for Their Own Learning 4	STANDARD 5 Assessment is Integrated into Instruction 5
--	--	--	--	---

Standard 5: Assessment is Integrated into Instruction

Indicator 1 - Teacher plans on-going learning opportunities based on evidence of **all** students' current learning status

Indicator 2 - Teacher aligns assessment opportunities with learning goals and performance criteria

Indicator 3 - Teacher structures opportunities to generate evidence of learning during the lesson of **all** students

Indicator 4 - Teacher adapts actions based on evidence generated in the lesson for **all** students

Science Teacher Professional Development Sessions Sequence:

Session I (20 min.)

- Introduction
- Video

Session II (20 min.)

- Video
- Strategy Highlights

Session III (20 min.)

- Strategy Highlights
- Team Talk
- Applications

Session IV (20 min.)

- Applications
- Reflection

SCIENCE

Connections
Cognition
Discourse
Metacognition
Assessments

Key Ideas from Theory and Research:

- Regular assessment (two to five times per week), with follow-up action, produces a substantial increase in student learning (e.g., Fuchs & Fuchs, 1986).
- Formative assessment, when effectively implemented, can impact student achievement as much or more than any other instructional intervention (e.g., Black & Wiliam, 1998; Hattie, 1999; Hattie & Timperley, 2007).
- Assessment “should focus on making students’ thinking visible to both their teachers and themselves so that instructional strategies can be selected to support an appropriate course for future learning” (National Research Council, 2001, p. 4).
- Feedback to students that is descriptive and evaluative and engages students in mindful activity – in contrast to feedback that gives current achievement – has the greatest benefit in student achievement (Kluger & DeNisi, 1996; Tunstall & Gipps, 1996; Shute, 2008).

Nevada Educator Performance Framework
Workshop Series Guide for SCIENCE Educators
Standard 5: Assessment is Integrated into Instruction

Session I:

Introduction: 2 min.

This video shows a teacher, Ms. Janet Bauer starting a unit on fungi in her 7th grade life science class. She is a 2nd year teacher. The student demographics are 12.5% Free/Reduced Price Lunch, 4.5% English Language Learners, 25.3% Students of Color, and 13.0% Special Education Students.

Videos from: <http://ambitioussciencelearning.org/video-series/middle-school-fungi-and-life-processes-legacy-series/>

Video: 18 min.

Video segments with independent, teacher focus questions.

<https://www.dropbox.com/s/d57qkasukxbwc6b/Lesson%20Day%201%20Standard%205%20P1.mp4?dl=0>

1. Topic and setting the environment for learning
0:00 – 5:15

What strategies for student engagement is the teacher using to provide context and relevance to the topic of fungi?

2. Individual thought:
5:15 – 14:25

What strategies for assessment of current student understanding is the teacher using?

3. Initial group work:
14:25 – 18:00

How does the teacher assess what the students have learned from the initial group activity on fungi?

Why do you think the teacher does not just tell the students what they should have observed during the group activity?

Nevada Educator Performance Framework

Workshop Series Guide for SCIENCE Educators

Standard 5: Assessment is Integrated into Instruction

Session II:

Video (continued): 15 min.

<https://www.dropbox.com/s/3jlgwhanf1urlyo/Lesson%20Day%201%20Standard%205%20P2.mp4?dl=0>

4. The teacher and students continue to develop the fungi concept map.

Notice how the teacher asks questions that link their prior knowledge to the previous day's lesson to gain an understanding of what the students gained from that activity.

Why do you think she asks questions that link what was gained from the lesson to prior knowledge?

What does she do when students do not give complete answers to her questions?

What does the teacher do to provide further opportunities to meet the goal of increasing student understanding fungi?

Video (continued): 07:14 min.

<https://www.dropbox.com/s/g5iqwc3s2z2nnux/Lesson%20Day%202%20Standard%205.mp4?dl=0>

5. On day two the teacher makes some adaptations to her lesson from the first day:

What evidence can you cite from the video to support the claim, "the teacher adapts actions based on evidence generated in the lesson"?

Strategy Highlights: 10 min. (in conjunction with the video)

After watching the video and addressing each of the teacher focus questions in Sessions I and II, what general science classroom strategies did you see the teacher use that you believe were or were not effective at achieving the indicators of Standard 5? Use examples to support your claims.

Strategies that were effective:	Strategies that were ineffective:

Nevada Educator Performance Framework
Workshop Series Guide for SCIENCE Educators
Standard 5: Assessment is Integrated into Instruction

Session III:

Strategy Highlights (continued): 3 min.

After watching the video, addressing each of the teacher focus questions in Sessions I and II, and identifying general science classroom strategies, identify what challenges and successes you would expect if you were to implement one of the strategies that you thought was effective in your classroom. Remember, your focus is just on strategies that you believe will help you achieve the indicators of Standard 5.

I would like to think about implementing...

I think a challenge to this strategy would be...

I think a success to this strategy would be...

Team Talk: 10 min.

Using your colleagues as professional resources, share your thoughts about a strategy represented in the video that you would like to try in your classroom to target achievement of the indicators of Standard 5.

Discuss as a group the perceived benefits and challenges to the strategy.

Central Ideas for the Group Discussion:

Applications: 7 min.

Using feedback from your peers, determine if you still value the strategy enough to try it out, or if you would like to choose another based upon the group discussion.

- Create a list of the materials, student steps/directions, and resources that you will need to implement the strategy in your classroom.
- Describe the big science idea you will target with your strategy.
- Describe when you will implement the strategy (tomorrow, start of next lesson, etc.).
- **You must implement the strategy before moving to Session IV.**

Nevada Educator Performance Framework

Workshop Series Guide for SCIENCE Educators

Standard 5: Assessment is Integrated into Instruction

Session IV:

Applications (continued): 10 min.

Work in small, non-discipline specific teams. Describe the application of your strategy to your peers so they understand what you did, what the students did, and your goal for the strategy implementation.

Discuss the list of the materials, student steps/directions, resources that you created, and the overall experience of implementing your strategy.

Describe how the strategy did or did not help you target the indicators for Standard 5.

Describe the aspects of your strategy implementation that you believe were **effective** at achieving the indicators of Standard 5.

Describe the aspects of your strategy implementation that you believe were **ineffective** at achieving the indicators of Standard 5.

Personal Reflection: 10 min.

After your small group discussion, think about your implementation and the results.

Effectiveness should be measured based upon the indicators for Standard 5:

Standard 5: Assessment is Integrated into Instruction

Indicator 1 - Teacher plans on-going learning opportunities based on evidence of **all** students' current learning status

Indicator 2 - Teacher aligns assessment opportunities with learning goals and performance criteria

Indicator 3 - Teacher structures opportunities to generate evidence of learning during the lesson of **all** students

Indicator 4 - Teacher adapts actions based on evidence generated in the lesson for **all** students

What would you change to make your implementation more effective? What evidence do you have to support your claims?

What went well in the implementation of your strategy? What evidence do you have to support your claims?

Is this a long-term strategy that you can implement at the start of every thematic unit? Why or why not?