Advancing Tools and Processes for Next Generation Science

Model B: Planning for Instruction

Tool 2 Lite: Using Performance Expectations to Plan for Classroom Assessments

Introduction

Tool 1 focused on using information from a NGSS page to develop a Unit Blueprint. Tool 2 Lite supports participants as they start to plan for the evidence of learning in their unit. Participants use a Backwards Design approach to unpack the performance expectations in the unit and describe what qualifies as evidence of students’ proficiency with the three dimensions. In Model B, participants experience a shortened version of Tool 2. Tool 2 Lite, to give them enough information to frame their work planning the learning sequence with Tools 3 and 4.

Goal and Outcomes:

Analyze evidence statements to consider how SEPs, DCIs, and CCCs impact classroom instruction

Prerequisite:

Participants should have experience using Tool 1.

Session Outline:

Opening (Slides 1-4) (15 minutes)

Purpose: Orient participants to the focus and goals of the session

Model and Practice Using MS-LS2 (Slides 5-7) (35 minutes)

Purpose: Consider how Evidence of Learning Specifications are used to plan classroom assessment using MS-LS2 as an example

Apply the Process (Slides 8-9) (40 minutes)

Purpose: Apply the process to develop Evidence of Learning Specifications to groups’ own work

Closing (Slide 10) (5 minutes)

Purpose: Reflect on the role of planning for classroom assessment in planning a unit of instruction.

Total Time: 95 minutes

Materials:

- Tool 2 Electronic Template for capturing the Evidence of Learning Specifications
- Chart paper, markers and tape

Handouts

HO 1 Executive Summary - NGSS Evidence Statements Front Matter
HO 2 MS-LS2-2 Evidence Statements
HO 3 MS-ESS3-4 Evidence Statements
HO 4 Tool 2 Lite Example with Evidence Statements

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Adapted from the original work of AMNH, BSCS, and the K-12 Alliance at WestEd.
Advance Preparation:

- Communicate with participants prior to the session that they should bring both HO4 (Tool 1 Example Unit Blueprint) from their previous PD session and their own Tool 1 Unit Blueprint (either electronic or printed). Suggest that participants bring a computer to record their product from the Tool 2 session in an electronic template.
- Print Handouts
- Transfer electronic Tool 2 Template to participants
- Review the Evidence of Learning Specifications for MS-LS2 prior to the session to make connections during facilitation of Slide 7

Example Transition to Tool 2 Lite: You have developed a blueprint for a unit of instruction. For our purposes, we will not develop a plan for all the learning sequences that are in the blueprint. We are focused on learning the process for the Five Tools and developing our understanding of how to use them. We are going to narrow our focus to look at one learning sequence within the blueprint—one column—as we move into Tool 2. Remember that in the Tools graphic, Tool 2 played a role in both planning for instruction and planning for assessment. In it, we will develop evidence of learning specifications. This plays a big role in developing assessments, which is not our focus; however, we need to be clear about this evidence from the perspective of Backwards Design. We want to be able to go into planning the specific learning experiences for students knowing what we intend for them to be able to do at the end of it. For that reason, we are going to do a shortened version of Tool 2 to help develop our ideas about what we want students to know and be able to do to inform our planning for instruction.
### Part 1 Introduction (30 minutes)

<table>
<thead>
<tr>
<th>Slide and Time</th>
<th>Facilitation Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Slide 1 (1 minute)</strong></td>
<td>1. Display <strong>Slide 1 (Five Tools &amp; Processes for NGSS)</strong>. Welcome participants to the session. Provide a transition that links the purpose of Tool 1 with Tool 2 Lite.</td>
</tr>
</tbody>
</table>
| **Slide 2 (2 minutes)** | 2. Display **Slide 2 (Model B Graphic)**.  
   a. Orient the participants to the purpose of Tool 2 in this model and its role in relationship to the rest of the tools.  
   b. Let participants know that while Tool 2 influences both Tools 3 and 4 (instructional design) and Tool 5 (designing assessment tasks), we will be examining its role in planning for instruction. |
| **Slide 3 (2 minutes)** | 3. Display **Slide 3 (Goal)**.  
   a. Make sure that participants understand that considering what students should be able to do at the end of an instructional sequence is important. For that reason, they are going to do a shortened version of Tool 2 so that they can make decisions about what they expect from students. |
### Slide 4 (8 minutes)

**Planning for classroom instruction**

What do you need to consider when planning for classroom instruction?

4. Display **Slide 4 (Planning for classroom instruction)**.

   a. Allow time for participants to share their ideas about the prompt on slide 4.
   
   b. Discuss their ideas as a whole group and chart the key ideas that come up.

### Slide 5 (5 min)

**Classroom Assessment Design**

<table>
<thead>
<tr>
<th>Task</th>
<th>What is?</th>
<th>How does NGSS help us think about it?</th>
<th>How do I use it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Expectations</td>
<td>State what students should know and be able to do.</td>
<td>Emphasize that this task is aligned to the three dimensions: ASP, DEs, MGs.</td>
<td>Tool 6.</td>
</tr>
<tr>
<td>Evidence of Learning Specifications</td>
<td>Specifications for the evidence that students should understand and be able to reason about. The evidence is achieved through a variety of assessment tasks.</td>
<td>Requires that the evidence be demonstrated within the PTE.</td>
<td>Not a formalized account of student achievement.</td>
</tr>
<tr>
<td>Assessment Tasks and Patterns</td>
<td>The assessment task describes what students should be able to demonstrate that they have achieved and what assessment tasks are linked to the evidence of learning specifications.</td>
<td>Not a formalized account of student achievement.</td>
<td>Tool 5.</td>
</tr>
</tbody>
</table>

5. Display **Slide 5 (Classroom Assessment Design)**

   a. Have table group review the chart and have a brief discussion of what they understand and any questions they might have. Use the slide to discuss what evidence statements are and their role in planning for instruction.

   b. Explain that this chart will help guide the construction of Evidence of Learning Specifications that will eventually lead to the development of an assessment task(s).

   c. Mark that a PE is a statement of what students should know and be able to do at the end of instruction; examples of the PE topic are given in the clarification statements; the assessment boundary defines the scope of the assessment; and the PEs are NOT assessment tasks.

   d. Forecast that evidence statements developed by Achieve help frame/outline what would serve as evidence of learning and what might the student product(s) include. While we can use the Achieve statements to inform our own, they are not bundled, as emphasized during Tool 1. When we develop our own specifications, we will keep in mind the integration of one or more PEs, as Achieve suggests.
<table>
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| **Slide 6 (10 minute)** | 6. Display **Slide 6 (Evidence Statements)**.  
   a. Distribute **HO1 NGSS Evidence Statements Executive Summary**. Allow participants quiet time to read the handout, then discuss their ideas with their team.  
   b. Invite groups to share key ideas form their discussion with the whole group.  
   c. Forecast that we’ll examine evidence statements for the example blueprint for MS-LS2 that we examined in Tool 1 as practice for the work we’ll do with our own sequences. |
| **Evidence Statements** |  
   • Read the NGSS Evidence Statements Executive Summary.  
   • Be prepared to share key ideas with a partner. |
| **Slide 7 (20 minutes)** | 7. Display **Slide 7 (Evidence Statements)**. This slide is animated.  
   **PD Leader Note**: Review MS-LS2 Evidence Statements prior to the session to consider how you will facilitate this discussion and make connections between the evidence statements and the blueprint.  
   a. Distribute **HO2 MS-LS2-2 Evidence Statements Model Notes**. Give participants time to review the handout. Ask if they would expect anything to be crossed out on the example and why or why not.  
   b. Have them refer to the Tool 1 Blueprint example to note anything that was crossed out or highlighted. Based on what they see, ask if they can give an example (or an additional example) of something that should be highlighted or crossed out in the evidence statements.  
   **PD Leader Note**: On the Tool 1 Blueprint example for MS-LS2-2, there are ideas that are highlighted but none that are crossed out, so participants should not suggest crossing anything out. If they do, discuss it and decide if there is something in the PE that should be crossed out, if there is something that is not represented in the PE, or if they agree that the evidence statement should remain as it is.  
   c. Distribute **HO3 MS-ESS3-4 Evidence Statements Model Notes**. Have participants work in small groups to mark out and highlight ideas in both the PEs and the evidence statements. Again, they should use the Tool 1 Blueprint to inform their thinking.  
   • Review the example handout for MS-LS2-2.  
   • What do you notice?  
   • Review the handout for ESS3-4.  
   • Use Tool 2 to help you highlight and cross-out text in the PE and in the evidence statements.  
   • Compare your work to the example.  
   • How does this help you think about planning for assessment? For classroom instruction? |
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<td><strong>d.</strong></td>
<td>They should compare their work to the example for ESS3-4 handout that includes highlighting and strikethrough text.</td>
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<td><strong>e.</strong></td>
<td>Ask participants to discuss their ideas about the prompt in the fourth bullet.</td>
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<tr>
<td><strong>f.</strong></td>
<td>Note that the work we are doing together doesn’t include the development of an Assessment Task as part of Tool 5. Those resources are available if that’s something participants would be interested in learning more about or doing in the future.</td>
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<tr>
<td><strong>8.</strong> Display Slide 7 (Give it a try!).</td>
<td>This slide provides the participants with the opportunity to work on the specific PE(s) (and learning sequences) from their Tool 1 Blueprint that they will include in the unit of instruction that they will be planning. They can start individually if they need some quiet time to process their ideas, but then they should work in small groups.</td>
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<tr>
<td><strong>9.</strong> Display Slide 8 (Enter your Evidence of Learning Specs...).</td>
<td>By incorporating their highlighted and crossed out statements on the Tool 2 template, it will give participants an opportunity to finalize their ideas and keep an organized place with the information that will be important as they move into work on Tools 3 and 4.</td>
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</tbody>
</table>
| **10.** Display Slide 9 (Reflection) | a. Allow a few minutes for participants to write their ideas about the prompt.  
   b. Forecast that, to complete the unit, they will complete EoLs for each of the sequences. Mark that it is possible that completing EoLs for the entire unit would be helpful at this point in the process. |
Transistion to Tool 3: At this point, you have considered what students will need to do to show that they have developed proficiency with the three-dimensional performance expectations for your learning sequence. You are going to continue to make use of your evidence statements as you move into work on Tool 3 and Tool 4. Keeping the end in mind can help keep you on target as you consider the experiences that you will have students do. By focusing on just the ideas and activities that will help move students toward the targets you have outlined in these evidence statements, it will help you eliminate any distracting ideas that may come up.