Science Site Leader (SSL) Implementation Guide
NanoPD: Essential Learning Event #4

Essential Learning Event #4

Students revise ideas, models, explanations, and design solutions through critique and argumentation.

NanoPD Landing Page: sites.google.com/sdcoe.net/nanopd

This guide has been designed to help you as a Science Site Leader in planning and facilitating **NanoPD: Essential Learning Event #4**. It includes a sample process you might follow as well as links to all resources to support the implementation of this professional learning experience at your school site.

Science Site Leader Training:

- Science Site Leaders will be trained in this NanoPD at the scheduled SSL Collaboration Session on **Friday, April 21, 2023**.
- At the SSL meeting, you will have an opportunity to watch the webinar, complete the activities that will be asked of teachers, and share your learnings with colleagues. You will also engage in collaborative conversations with your peers to anticipate questions teachers may bring up at school sites and determine possible responses. You will record notes and ideas on a Jamboard for possible future reference.
- If you aren't able to make the SSL meeting, you can review the Jamboard to gather some ideas prior to working with teachers at your site.

Planning the NanoPD:

If you have not already done so, meet with your site administrator to discuss, plan, and calendar dates for the NanoPD experience with teachers. You will need to:

- Identify a window of time for teachers to **watch the NanoPD** webinar and complete the tasks embedded in the video. The webinar takes about 40 minutes to watch and complete the activities.
- Schedule time for teachers to come together at a **teacher collaboration meeting** to share what they learned and their classroom plan to apply what they learned. This meeting will take approximately 30 minutes.
- Decide whether participating teachers will complete the webinar individually or as a team.

- ➢ Identify a window of time for the **action period** where teachers can teach the lesson they are planning with Essential Learning Event #4 in mind. This could be 2-3 weeks depending on what lesson they are considering.
- ➢ Schedule a **summary collaboration meeting** where teachers can share what they did and learned during the lesson they taught. This meeting will take approximately 20 minutes.
- ➢ Determine meeting rooms for the **teacher collaboration meeting** and **summary collaboration meeting**.

Facilitating the NanoPD:

1. Resources you will need as an SSL to lead and facilitate the NanoPD at your school site:
    a. This **SSL Implementation Guide for NanoPD: ELE2**.
    b. **NanoPD Webinar Presentation** (link: bit.ly/NanoPD-ELE4-Presentation). Use this as needed to share slides from the NanoPD in conversations and meetings with teachers.
    c. **NanoPD:ELE2 Collaboration Meeting Padlet** (link: https://padlet.com/john_spiegel/ELE4NanoPDSummary1). Use this after your first teacher collaboration meeting to share your insights and progress around the NanoPD.
    d. **NanoPD:ELE2 Summary Meeting Padlet** (link: https://padlet.com/john_spiegel/ELE4NanoPDSummary2). Use this after your summary collaboration meeting to reflect on the overall NanoPD experience at your school site.
2. Communicate to teachers the schedule for the NanoPD and share the resources they will need to complete it. The resources include:
    a. The link to the **NanoPD Webinar Video** (link: bit.ly/NanoPD-ELE4-Webinar)
    b. A printed or electronic copy of the **NanoPD: ELE2 Teacher Companion Guide** document (link: bit.ly/NanoPD-ELE4-TeacherCcompanion)
    c. A printed or electronic copy (printed preferred) of either:
        i. **Elementary Sample Student Actions and Questions** document (link: bit.ly/ELE4Elementary)
        ii. **Secondary Sample Student Actions and Questions** document (link: bit.ly/ELE4Secondary)
    d. Teachers will need yellow, green, and pink highlighters for printed materials or can use the highlighting tools in GoogleDocs for electronic materials.
3. Provide support to teachers as needed as they complete the NanoPD webinar and remind them to bring their notes and classroom plan from the activities in the webinar.

When completing the webinar, they should consider a classroom science lesson they will teach during the action period. This length of time of the action period should be communicated in advance.

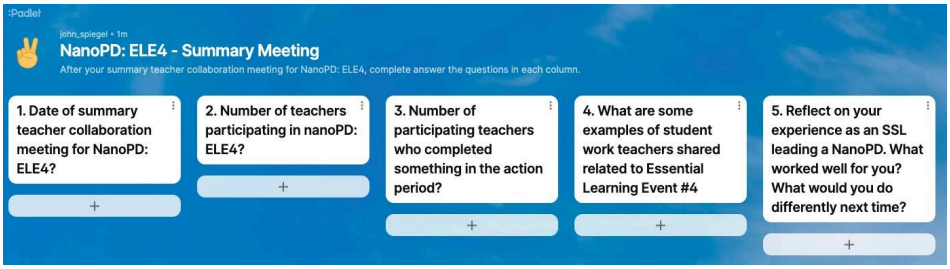
4. Facilitate the first **teacher collaboration meeting**.
    a. Before the meeting, prepare two charts to capture ideas from the group.
        i. Chart #1: Action Words and Examples
        ii. Chart #2: What We Hope to Learn
    b. Welcome the teachers and spend a few minutes connecting and building community.
    c. Lead a discussion on the different actions words in the description of Essential Learning Event #3 and the examples teachers identified for how students might do this work in their classrooms. Record examples on Chart #1 as they share.
    d. Invite teachers to share their classroom plan by responding to the questions in the *Begin Making a Plan* section of the webinar.
    e. After they share, invite others to ask clarifying questions about the student action(s) they are considering as well as the question(s) they will use. Ask them to share whether they chose actions they initially highlighted as green, yellow, or pink.
    f. Ask, if necessary, for more specificity about when they will teach a lesson with these actions/questions in mind.
    g. Once all groups have shared, ask teachers what they hope to learn from this action period. If they chose actions they highlighted in yellow or pink, invite them to share possible ways they might collect evidence or information about where students are in relation to the identified student action(s). In other words, what evidence would they collect to show students are moving from pink to yellow, or from yellow to green. Record ideas shared on Chart #2 as they share. NOTE: This activity has a tie in to the standards-referenced report card and evidence that could be used to determine progress toward the indicators. Depending on where your school site is in relation to the standards-referenced report card, you might want to emphasize this connection.
    h. Invite teachers to share any of the ideas or questions they had when participating in the NanoPD webinar. Spend time discussing or answering questions that have come up. NOTE: It is okay to not have answers to questions that arise. They can be added to the Padlet as a question to the larger SSL community.
    i. Explain to teachers that they should now teach the lesson they identified. When they teach it they should think about and collect several samples of student work that could be used as evidence of how students are doing with this practice in

mind. Samples of student work might be a piece of writing, a page from their science notebook, a drawing, or teacher notes about something they said during group work or a class discussion. If necessary, provide some time for teachers to reflect and come up with some possible things they might collect.

j. After the meeting, spend a few minutes to complete the questions in the **NanoPD:ELE4 Collaboration Meeting Padlet** (link: https://padlet.com/john_spiegel/ELE4NanoPDSummary1).

   i. There are five columns in the Padlet. Each one has a question you will need to answer.

      1. Date of teacher collaboration meeting for NanoPD: ELE4?
      2. Number of teachers participating in NanoPE: ELE4?
      3. What were three Actions Words highlighted by teachers? For each one, provide one example of how students might do this work in the classroom.
      4. What do teachers hope to learn from the action period for NanoPD: ELE4? What student work might be collected?
      5. Additional ideas or questions shared or asked by teachers.



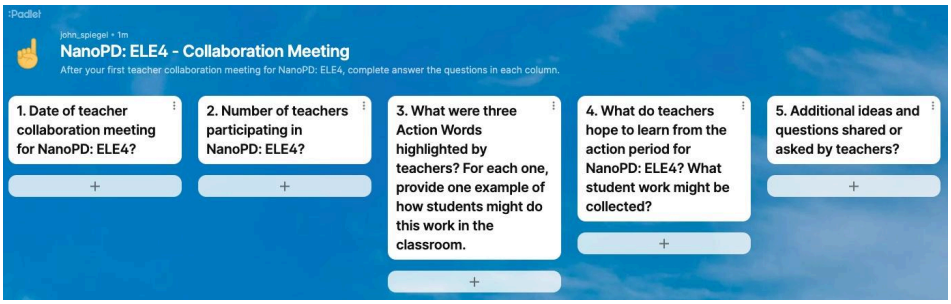
   ii. To add a response, click on the "**+**" at the bottom of a column. In the *Subject* for each response, write your name and school site (see example below). Write your response. Click on the "Publish" button to submit your response.



5. During the **action period**, provide support or encouragement to teachers as needed. Follow up with face-to-face or email communication to remind them about what they

have planned and what they might collect as evidence of student progress around the identified student action(s).

6. Facilitate the **summary collaboration meeting**.
    a. Welcome the teachers and spend a few minutes connecting and building community.
    b. Invite teachers to share with one another what they did in their classroom during the action period and some of their initial insights into how it went. Ask them to remind the group the student action(s) they were focusing on. Follow up by having them share what questions they used to prompt student thinking around the Science and Engineering Practice related to their student action(s).
    c. Have each teacher show the student work they collected as evidence of student progress around the identified action(s). Invite other participants to offer praise, ask clarifying questions about the lesson, or share what they see in the student work.
    d. Invite teachers to share and discuss as a group how they think students are doing. Ask the presenting teacher about whether they would highlight the student action as either green, yellow, or pink and what their next step might be for instruction.
    e. Continue having teachers share until everyone has had a chance.
    f. Lead a discussion about what new questions have come up and what final reflections they have about Essential Learning Event #4 or the NanoPD process.
    g. Thank and encourage teachers for their participation.
    h. After the meeting, spend a few minutes to complete the questions in the **NanoPD: ELE4- Summary Meeting Padlet** (link: https://padlet.com/john_spiegel/ELE4NanoPDSummary2).
        i. There are five columns in the Padlet. Each one has a question you will need to answer.
            1. 1. Date of summary teacher collaboration meeting for NanoPD: ELE4?
            2. Number of teachers participating in NanoPD: ELE4?
            3. Number of participating teachers who completed something in the action period?
            4. What are some examples of student work teachers shared related to Essential Learning Event #4?
            5. Reflect on your experience as an SSL leading a NanoPD. What worked for you? What would you do differently next time?



j. To add a response, click on the "**+**" at the bottom of a column. In the *Subject* for each response, write your name and school site (see example below). Write your response. Click on the "Publish" button to submit your response.



7. Be ready to share your overall experiences leading and facilitating this NanoPD experience at the next SSL Collaboration Meeting or SSL Professional Learning day.

This resource was developed by the Curriculum and Instruction Science Team at the San Diego County Office of Education, 2022. For additional resources and information about the Next Generation Science Standards, visit the SDCOE Science Resource Center at ngss.sdcoe.net.