


HONORING EDUCATORS' LEARNING PRACTICES



Upcoming District-Wide Professional Development

March 1: Why Students Need to Make Mistakes (K-12) at Lincoln 3:45-4:45

March 15: Vocabulary Instruction for Elementary Grades (K-5) at Horace May 3:45-4:45

March 22: K-5 American Indian Culture, Concepts and Curriculum at Lincoln Computer Lab 3:45-4:45

March 27 (Tuesday): Literature Circles (K-12) at Horace May 3:45-4:45

March 29: Microaggressions in the Classroom: Effects on American Indian Students at Bemidji Middle School Library 3:45-4:45

Teaching Strategies

American Indian Culture Tip: Effect of Historical Trauma on American Indian Students Today

The term *Historical Trauma* refers to the combined emotional and psychological hurt to a whole generation of people caused by traumatic experiences or events. American Indian students today can suffer from the negative educational experience of their parents, grandparents and community members.

A community or family's view of educational systems can be changed with negative experiences in those systems. For an example a parent or grandparent who has lived through racism, abuse and other traumatic experiences in their educational history may unknowingly pass on that hurt to their children and their view of education. If a young American Indian child hears these stories about how the educational system looks at them negatively they may react in a negative way towards education in general.

Historical Trauma shows greatly in the families of *Indian Boarding School* survivors. These “schools” attacked a whole generation of American Indian people, punishing students for practicing their language and traditions. An outcome of the *Boarding Schools* is that many of those survivors lost the connection to their culture and could not pass it down to their children. This hurt is still felt today as many communities are working to regain what was lost in terms of language and traditions. These are only a few ways how *Historical Trauma* can still affect American Indian people. Please keep in mind that not all American Indian students suffer from these aspects of *Historical Trauma*, or in the same way.

American Indian Culture Based Lessons:

K-5: "American Indian Word Booklet"

(Grade Focus: 1-3) (Social Studies, Language Arts)

https://docs.google.com/document/d/1eHwmcZF1kJ93FLlhl_dNTmGy7595f58kB5kX_sGBa9Y/edit?usp=sharing

<http://lessonplanspage.com/ssnativeamericanvocabulary3-htm/>

This adaptable lesson goes over the creation of a "word book" with the word, definition, drawing and American Indian nation 's name that the word originates from.

6-8: “Hiawatha Poetry Lesson Plan”

(Grade Focus: 5-7) (Language Arts)

<https://lptv.pbslearningmedia.org/resource/vtl07.la.rv.text.lpinfluence/identify-cultural-influences-hiawatha/?#.WL4zs9WnHrc>

In this lesson students identify aspects of American Indian life represented in Henry Wadsworth Longfellow's poem, “The Song of Hiawatha.”

9-12: "Images of the New World"

(Grade Focus: 9-12) (Social Studies)

<https://edsitement.neh.gov/lesson-plan/images-new-world>

This lesson plan focuses on the view that early European settlers had on the native people of North America, it's accuracy and overall impact on American Indian culture.

K-5 Vocabulary: “Cloze Passages” This strategy is great for not just reading, but for math, health, science, social studies, art, music, and P.E. too! How do you introduce new vocabulary words? How do you assess vocabulary? Have you ever thought about using a cloze passage? Cloze passages are great ways to both introduce and assess vocabulary words. A cloze passage is a passage where keywords are deleted, and students fill in the blanks with the correct words (using a word bank). So, you could write a passage using the words you are teaching or assessing, leave those words out, and see if students can correctly use the word. When using this strategy as an introduction, you would first

want to discuss the words so there is some background knowledge. Then, display a cloze passage on the SMART board and allow students to use the words correctly. When assessing at the end of a unit, the cloze passage can be printed so students can complete it individually. Students will need to have thorough knowledge of the words to use them correctly. This activity promotes a higher DOK level than a multiple choice test.

6-12 Vocabulary/Content Areas: “Carousel Brainstorming” This activity can be done prior to teaching a unit to develop background knowledge, or after a unit as a review activity. Around the room, place chart paper with a topic or concept at the top. Divide class into groups of 3-4 and assign each group a color marker to write with (each group needs a different color). Place one group at each chart paper station and give a few minutes for the group to read the topic, discuss it, and write everything they know about the topic. Rotate and repeat so that all groups have time at each chart paper station. To conclude, you can either read responses to the class, or allow a few minutes for a gallery walk for students to read all of the responses. This is a great activity that can be done in any class before, during, or after a unit!

K-12 Math: “Modeling with Mathematics” adapted from the book [Modeling with Mathematics \(Part 2 of 4\)](#)

What is Necessary in the Math Classroom (pg. 34):

- a. Rich modeling problems ask:
 - i. Which strategy are we using here?
 - ii. What do we do first?
 - iii. What are we trying to find?
 - iv. Go from learning math, to DOING math.
 - v. Encourage students to develop mathematical autonomy.
 - vi. It is not about one right answer and one way of doing the problems.
- b. The Teacher’s Role: Exploration and Finding a Pattern (pg. 35)
 - i. Once teachers show that there is more than one way to view a problem, and that all ideas are respected and considered, the room will “exploded with suggestions” (pg. 35).
 - ii. The teacher’s role as facilitator is vital, as students begin investigating a non-routine modeling problem.
 - iii. The teacher must pose guiding questions. “We must remember we are not just solving this one problem—we are trying to create critical thinkers who are capable of taking the initiative when presented with real problems” (pgs. 34-35).
 - iv. “Teachers, when asking directed questions, should point students in the right directions without taking away the power (students) gain from decision-making and risk taking” (pg. 38).

v. When students ask, “What are we supposed to do?” the teacher should ask students questions in return: (pg. 38)

- Have you read the instructions? (not in a sarcastic way)
- Tell me what the problem is about. What are you supposed to find out?
- Can you restate the problem?
- Can you make a sketch of the problem?
- Can you represent the problem using manipulatives?
- Have you seen another problem like this one?
- Ask students to restate the problem and describe the task after students are given time and opportunity to reconsider the problem.

vi. Teachers need to emphasize to students that any (mathematically valid) solution for which they can make a strong argument is “correct.” This flexibility in thinking, and departure from the idea of only one correct solution, encourages, and motivates students.

vii. Not all modeling problems have several solutions, but the process always has opportunities for different approaches and diversity of thinking.

Helping Students Get Started:

1. The teacher will provide wait time for student thinking (pg. 45):
 - a. Allow students time to investigate the problem.
 - b. Allow students time to discuss strategies for solving the problems.
 - c. Allow students time to plan the actual problem solving.
 2. The teacher will base his or her own questions on the student’s own ideas.
 3. The teacher will identify more problem examples.
 4. “The teacher will allow group discussions and directed questioning to encourage mathematical autonomy. Students’ ideas are used to clarify and refine the monitoring and reflecting process” (pg. 45).
 5. “It is important for the students and the teacher to get the first steps of mathematical modeling problems right. When students, with the teacher’s guidance, understand what the problem is asking-what information is important and what is not-and can formulate a plan to solve the problem, their path to completion of the task is smoother and more direct” (pg. 45).
2. Mathematical Foundation of the Model and Data Collection: This is where many teachers hit the proverbial wall” (pg. 46):
- a. Students begin to collect data and formulate the mathematical model.

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- b. Teachers must start slowly when introducing modeling with plenty of support and supervision (pg. 47):
- i. Teachers need to provide hints and guided questions.
 - ii. Teachers need to remind students of the different tools they have in their math toolkits (various approaches), and provide opportunities for multiple representations.
 - iii. Start students on tasks with require fewer tools/concepts that are comfortable and familiar.
 - iv. Let students experience success and gain confidence on these problems. Then, gradually, require more of your students and provide less specific information and fewer suggestions.
 - v. “If teachers progress slowly and patiently through this ‘letting go’ process, you will produce autonomous learners who are capable of formulating a model, making decisions regarding problem solving, and incorporating a variety of techniques and representations into their models” (pg. 47).
- c. Formulating a Model:
- i. “If we ask students to formulate a model for a given task, we are guiding them to use mathematics to represent a problem in the real world” (pg. 47).
 - ii. Ladder of Abstraction (Concrete-Representational-Abstract Model) (pgs. 48-49): “The objective in formulating a model is to find the mathematical representation that provides the most useful solution” (pg. 49).
- d. Using Multiple Representations:
- i. Multiple representations: A variety of methods to describe what is happening in a math problem (sketch, graphs, pictures, diagrams, tables, equations, symbols, concrete models, and verbal descriptions).
 - ii. Benefits of Multiple Representations:
 - Multiple representations help students understand the characteristics of a problem.
 - Students gain deeper, more flexible knowledge about the problem.
 - “When students presented their results in a variety of ways, they found that they were not only providing a clear explanation of their reasoning and solution, but had a better understanding of the connection between the equation, the picture, and the actual problem they were solving (table and guests)” (pg. 103).
 - iii. Earliest Stages of Multiple Representations:
 - “Early in the process students may not consider the various ways in which they might represent data or solutions, so it is important to remind them of the representations available to them” (pg. 101).
 - “When presented with rich modeling tasks, students may become overwhelmed with information and decisions. When student are communicating and implementing

the solution to a modeling task, they begin to understand that different representations convey ideas in different ways and appeal to different learning styles” (pg.101).

- When students ask, “What do we do?” encourage them to use whichever representation makes sense to them, and see if they can make progress.
- “Abstract is not the final goal. By moving back down the ladder of abstraction, moving from the highest abstract to the concrete, students gain a deeper understanding of the process of abstraction and the power of generalization and algebraic thinking” (pg. 55).
- “In the beginning, most basic version of mathematical modeling, we might be very specific about requiring students to represent a problem in several ways” (pg. 50).
- “As students gain confidence... (in)using a variety of representations, they will become more autonomous and better able to decide which representations would work best for a particular problem” (pg. 56).
- “As students gain more experience with independent work and develop a stronger sense of mathematical autonomy, you can provide students with less direction/specificity” (pg. 57).
- “When the representations are completed, students can analyze the various data in order to make decisions about solving the problem. They may discuss the problems and possibilities of each representation, and decide which they prefer and why” (pg. 57).

K-12 Technology:

“Google Forms” Manage event registrations, create a quick opinion poll, and much more. With Google Forms, you can create and analyze surveys right in your mobile or web browser—no special software required. You get instant results as they come in. And, you can summarize survey results at a glance with charts and graphs.

Google Forms is a full-featured forms tool that comes free with your Google account. You can add standard question types, drag-and-drop questions in the order you like, customize the form with simple photo or color themes, and gather responses in Forms or save them to a Google Sheets spreadsheet.

Google Forms includes 12 field types: 9 question types, along with text, photo, and video fields. Just click the + icon in the right sidebar to add a new question, or click the text, photo, or video icons to add media to your form. A few links to get you started include...

Get started with Forms: [CLICK HERE](#)

Get started with quizzes: [CLICK HERE](#)

Google Forms Cheat Sheet: [CLICK HERE](#)

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