Formative Assessment Lesson Planning Framework

Introduction to Data Science (IDS), Unit 1, Lesson 1 "Data Trails"

THE CENTER ON STANDARDS & ASSESSMENT IMPLEMENTATION
WestEd CRESST

LEARNING GOALS	SUCCESS CRITERIA	EVIDENCE-GATHERING OPPORTUNITIES	PLANNED PEDAGOGICAL RESPONSES
What is the learning intended by the end of this lesson?	What will students do to show they are progressing toward the Learning Goal?	How will teachers and students collect information about students' progress toward the Learning Goal?	What will teachers do in response to evidence about students' progress toward the Learning Goal?
Students will understand what are data, how they are collected, and possible effects of sharing data. 1. Data are a collection of recorded observations. 2. Data are gathered by people and by sensors. 3. Patterns in data can reveal previously unknown patterns in our world. 4. Data play a large, and sometimes invisible, role in our lives.	Discuss "The Target Story" video. 1. How did Target know about the daughter?	Pair discussion: listen to student responses.	IF STUDENTS... do not know how Target knew about the daughter THEN TEACHER WILL ... explain that Target used the information gathered from the daughter's Red Card and compared it to information about other shoppers; typically, women who bought those products were pregnant
	Discuss data. 1. What are they? 2. Where do they come from? 3. Give an example. 4. Give a non-example.	Whole class discussion: listen to student responses.	IF STUDENTS... do not know what data are; do not know where data come from THEN TEACHER WILL ... tell them that data are information or observations that have been gathered and recorded; tell them data can come from a variety of places (e.g., cell phones, computers, school records, surveys, etc.
	Discuss data trails. 1. Data collected about us as individuals that could be used to see patterns in our personal lives. 2. Can learn about data trails by keeping a data diary. 3. Become aware of how often you leave a data trail and what information is being collected about you on a regular basis.	Whole class discussion: listen to student responses.	IF STUDENTS... THEN TEACHER WILL ...
	Begin a data diary. 1. Discuss instructions and first example. 2. By next class, keep a data diary for 24 hours.	Whole class discussion: listen to student responses. Small group share: One team of students discuss the 3 most important topics of the day.	IF STUDENTS... THEN TEACHER WILL ...

Comment [JPH1]: This horizontal format makes it easy to see whenever there is misalignment.

Comment [JPH2]: The most important thing about success criteria is that they are visible. Also, written in language that can be understood and used by students. Eventually these become self- and peer assessment tools. The numbered parts are not necessarily shared with students, but the main SCs are the "contract" with the students. "If you do these things, you will achieve today's learning goals."

Comment [JPH3]: Looking vertically at the lesson's evidence-gathering opportunities, it is pretty clear that there isn't much variation and not many different opportunities for students to show what they know. Students who don't do well with discussion will not do well in this lesson.

Comment [JPH4]: This part of the goal aligns with #4 (see comment below) and is not supported in the lesson.

Comment [JPH5]: Example of misalignment. There is nothing in the lesson (as written) that supports this learning goal. It either needs to be revised, or the lesson must include some way for students to access this content.

Comment [JPH6]: Reading the description in the lesson plan, this doesn't seem to be a "discussion," more a "listen to teacher." Might consider adding questions to prompt discussion and to allow for adequate time.

Formative Assessment Lesson Planning Framework

Introduction to Data Science (IDS), Unit 1, Lesson 2 "Stick Figures"

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LEARNING GOALS	SUCCESS CRITERIA	EVIDENCE-GATHERING OPPORTUNITIES	PLANNED PEDAGOGICAL RESPONSES
What is the learning intended by the end of this lesson?	What will students do to show they are progressing toward the Learning Goal?	How will teachers and students collect information about students' progress toward the Learning Goal?	What will teachers do in response to evidence about students' progress toward the Learning Goal?
Students will learn how to observe, record, and organize data. 1. Data consist of records of particular characteristics of people or objects. 2. Data can be organized in many different ways, and some ways make it easier than others for achieving particular purposes.	Discuss *Data Diary* handout. 1. How many observations did you make? 2. Where do you leave the most data trails? 3. What could someone learn about you if that person had all of these data?	Think-Pair-Share: listen to student responses.	IF STUDENTS… THEN TEACHER WILL …
	Act as researchers and **collect** data on a strange group of people. 1. **Record** as much information as possible about these people. 2. **Organize** the information in any way you choose. 3. **Represent** the information on a group poster.	Individual responses in DS journal about Stick Figures Team discussion of individual responses. Group poster: visual representation of data.	IF STUDENTS… THEN TEACHER WILL …
	Provide feedback in Gallery Walk. 1. As a team, write a comment or question to other teams' posters.	Small group discussion: peer feedback through sticky notes.	IF STUDENTS… THEN TEACHER WILL …
	Compare team representations of data. 1. Describe similarities. 2. Describe differences. 3. What information was available on the cards? 4. What representations made it easy to see information? 5. Which representation made it easy to see which stick figure is tallest? 6. If you were handed a blank stick figure and a name, could you fill in the rest of the information?	Whole class discussion: listen to student responses. Small group share: One team of students discuss the 3 most important topics of the day.	IF STUDENTS… THEN TEACHER WILL …

Comment [JPH7]: Misalignment. Doesn't connect to the lesson's learning goals or to the next step in the lesson. This is in response to yesterday's learning goal #4 so something needs to shift. How will teachers know whether they can proceed with the next step of the lesson?

Comment [JPH8]: Are teachers looking for completion, or quality? If quality, then some quality indicators should be provided.

Comment [JPH9]: What are teachers to do with this information?

Comment [JPH10]: At the end of the first two days, will teachers know whether all students are following along? What quick assessment can teachers do to have some idea of how all students are doing?