Standard-Based Grading in Science: Taking Your Next Steps

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Dawn Posekany
Solon High School

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Standards-based grading in science: Taking your next steps

Dawn Posekany (Solon HS science teacher)
Matt Townsley (UNI ed. leadership professor)
Who is Dawn Posekany?

- Science teacher at Solon High School: Biology, Anatomy & Physiology, Zoology, Botany, Microbiology, and other classes as assigned (hahaha)
- Workaholic
- Volunteer at UIHC
- Dream is to be a park ranger at a National Park after retirement
- Adore the people I work alongside

dposekany@solon.k12.ia.us
Who is Matt Townsley

- Classroom teacher (Solon, IA)
- Administrator (Solon, IA)
- Researcher and university professor (UNI)
- Author and consultant
Three shifts in standards-based grading
A bit of common language to consider

1. The purpose of grades is to communicate students’ current levels of learning.
2. Points and percentages are not the best way to communicate learning.

For the purpose of this session:

SBG = SRG = TBG = SBL
Three shifts in standards-based grading

1. Repurposing homework as ungraded practice
2. Providing students multiple opportunities to demonstrate their learning
3. Communicating current levels of learning in the grade book.
Repurposing homework as ungraded practice

FROM POINTS:
“Each homework assignment is worth 5 points...and homework is 15% of your final grade”

TOWARDS FEEDBACK:
“The purpose of homework is practice; therefore, I will report it separately and provide you with non-numerical feedback so that you can learn from your mistakes”
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**Homework and practice key:**
- ✓ = Collected
- X = Missing
- L = Late
- Ab = Absent

**Assessment key:**
- 0 = No evidence of learning
- 1 = Minimal understanding
- 2 = Partial understanding
- 3 = Proficiency with standards
- 4 = Mastery of standards
Providing students multiple opportunities to demonstrate understanding

FROM TIME-DRIVEN:

“Everyone only has one chance to demonstrate learning, which happens to be this Friday’s test.”

TOWARDS FLEXIBLE & CORRECTIVE:

“If you have not yet learned (standard), the reassessment process is (insert relearning and reassessment plan).”
Sample student re-learning plan checklist

- What standard would you like to reassess? ______________
- Homework/practice turned in before the test? ___ Yes
  If no, complete homework and staple to this.
- Setup a time to go over test/project corrections with teacher.
  Time/date requested: ______________
- Complete extra practice. Teacher assigned practice: ______________
- Bring this completed checklist to teacher to setup reassessment time.
Communicating current levels of learning in the grade book.

FROM TASKS & PERCENTAGES:

Chapter 3 Test: 86%

TOWARDS GOALS:

Area of a Circle

Area of a Rectangle

Area of a Triangle

Key: 4 = meets standard
3 = nearly meets standard
2 = progressing towards standard
1 = not even close!
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Determining end of reporting period letter grades from standards

Three general methods

1. “Percentages” method.
2. “Logic rule” method
3. “Marzano” method

For a full description of each method: www.bit.ly/sblgrades
Three shifts in standards-based grading

1. Repurposing homework as ungraded practice
2. Providing students multiple opportunities to demonstrate their learning
3. Communicating current levels of learning in the grade book.
Gradebook - a couple of examples

**BIOLOGY**

*Required for graduation (10th grade)*

**FINAL GRADE CALCULATION:**

- 90% learning targets
- 10% final exam
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Comment:
We would like Jordan to work toward reassessing the following learning targets she does not understand: using evidence to make decisions, trade-offs, and correlation vs. causation.

To reassess students must 1) have a completed notebook and glossary, 2) make corrections and go over those with Mr. Monahan, 3) do extra practice.

Approximately 2029 characters left

Approximately 1525 characters left
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Grades last updated on 12/19/2014

- Collected, ▲ - Late, □ - Missing, ⚫ - Score is exempt from final grade, 🎉 - Assignment is not included in final grade
Guideline: Reassessment

“If we allow students an opportunity to reassess, won’t they just blow off the first attempt?”
Multiple points of data/most recent evidence counts

- Formative assessment/pre-test
- Informal observations during instruction
- Practice, homework etc. during instruction
- Formal quick check
- Target test (GRADED)
- Reassessment (NEW GRADE)
- Professional judgment
Reassessment

Some target tests will only assess a single learning target while others will assess multiple learning targets. Students may reassess any learning target except lab practical exams and finals as long they meet the deadlines for reassessment and complete the "insurance policy." Reassessment dates are set by the teacher and will be approximately one week after the class gets results back.

Reassessment rules:

- Only one learning target may be reassessed at a time.
- No more than one learning target can be reassessed per day.
- **Reassessment cannot be on the same day a student received help from the teacher.**
- The reassessment is not identical to the original quiz or test.
- The new score replaces the previous score.
- Students may reassess as many times as necessary, but additional practice or work may be required with each attempt.
- Some learning targets are weighted more heavily. These will be communicated before assessment and noted in the assignment description in PowerSchool.
- After reassessment, if you would like another chance, you must contact the teacher within two days of receiving your results and work together to create a plan for the next reassessment.
- Stop in to go over reassessments results with your teacher. These are not passed back during class.
Reassessment Policy

To REASSESS in Biology:

1. Show teacher completed work (notebook, homework, lab, activity, etc.)
2. Correct test (those parts related to the learning target)
3. Go over corrections with teacher
4. Do additional practice
5. Schedule reassessment time with teacher
Reassessment

* Communicate clearly & often (never stop)
* Have a solid “insurance policy”
* Do have a timeline/limits
* Process builds relationships

Reassessment Checklist

The following steps must be completed in order. Check them off as you complete them.

☐ 1. Determine which learning target you would like to reassess (only one at a time). Write it below.

Learning Target: ___________________________ Original Score: ______

☐ 2. Complete A or B below depending on your original score and work:

A. If you got a 3.0 or 3, and you completed and turned in evidence of studying before the test (for example you may have created study cards and answered the “Can I…” statements) I confirm this with your teacher.

Teacher Approval: _____________ Date _____________

B. If you got less than a 3 or did not complete and turn in evidence of studying before the test, show your teacher you have completed work related to the learning target. A list is posted on the microscope cabinet. This includes related activities in your notebook, practice, etc. If you need help completing these, please do not hesitate to ask.

Teacher Approval: _____________ Date _____________

☐ 3. Ask teacher for your original assessment (test).

A. Correct the part of the target test related to the learning target you want to reassess using a different color. You may use your notebook, a textbook, the Internet, etc. You may not use another person’s test or work with another student. Doing so may disqualify you.

B. Consider your corrections. Write a reflection that connects original work to corrections. Why did you miss what you missed? What patterns do you notice?

Ecosystem Change Cause/Effect Diagram Notebook Check

Check that you have all of the following completed and ready to show your teacher:

* Glossary for Ecology Activity 1 (Part 1 - two pages)
* At least three sticky notes from your case study reading
* Case Study Comparison chart
* Cause/Effect diagram for your case study in notebook
* Complete list of tips for making cause/effect diagrams
* A Walk Outdoors handout
* Invasive Species handout with 3 comments
* Revisit the Challenge
Another reassessment policy

Grading and Reassessment

At this point, the high school is very streamlined on grading. The grading scale is consistent (see syllabus) and the scoring guide for assessments is consistent. One of the items that differs in each classroom is the idea of a reassessment. My reassessment schedule consists of two days a week (Tuesday and Thursday). Students can come in any time on those days and initiate a reassessment. There are several things that must be done ahead of time:

1. At least two days ahead of the reassessment, students need to check with Mr. Beck to see what needs to be done ahead of time for the reassessment. This would include homework assigned in class that wasn’t completed or a set of practice problems outside of the homework.
2. The day before the reassessment, students will come in with completed work assigned, and check over them with Mr. Beck.
3. No help will be given the day of the reassessment.
4. Students need to schedule a time for the reassessment (this can be done in person or over email).
5. Students will sit down with Mr. Beck after the reassessment and go through the problems together. Immediate feedback will be given.

The latest score on a reassessment takes the place of the most current score. Students may only reassess one standard per week. This means that they may reassess one standard on Tuesday, and another standard on Thursday of that same week.
Revisions

*Sometimes revisions make more sense.

- Lab reports
- Projects
- Models/Modeling
- ????
Guideline: Homework as practice

“If I don’t assign a grade for the homework, will students still complete it?”
Homework

* System vs you (students now only know SBG)

* Nothing new/different overall (some will and some won’t do homework)

* Saw a decline for a bit then return (testing it out)

* Should be meaningful and purposeful, help them see value

* Reduce!

* Studying vs homework
Communication (Say it and repeat)

* Clear communication of content & skills to be learned

* Metacognitive goals (mindset)

  - **Failure, progress & improvement**

    - Self-regulated thinking

      - Identify what they know & don’t know
Let’s try this!
### Solon SBG Standard Scale

#### Rubric Scale

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3.5</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Demonstrates thorough understanding (of course or grade level standard)</td>
<td></td>
<td>Demonstrates a developing understanding (of course or grade level standard)</td>
<td>Demonstrates partial understanding (of course or grade level standard)</td>
<td>Demonstrates minimal understanding (of course or grade level standard)</td>
</tr>
<tr>
<td>Rubric Score</td>
<td>Power School Entry</td>
<td>Parent Sees</td>
<td>Teacher Language</td>
<td>Student Language</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------</td>
<td>-------------</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4/4 = 100%</td>
<td>Demonstrates thorough understanding of course standard.</td>
<td>I get this very well and can apply it to new situations.</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>3.5</td>
<td>3.5/4 = 87.5%</td>
<td>Demonstrates understanding of course standard.</td>
<td>I’m almost there.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3/4 = 75%</td>
<td>Demonstrates a developing understanding of course standard.</td>
<td>I have some questions.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2/4 = 50%</td>
<td>Demonstrates partial understanding of course standard.</td>
<td>I need some help.</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1/4 = 25%</td>
<td>Demonstrates minimal understanding of course standard.</td>
<td>I need LOTS of help!</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0 (or missing indicator)</td>
<td>0/4 = 0%</td>
<td>Missing or not enough to assess.</td>
<td>I couldn’t answer the questions and left some blank. I wasn’t ready or I was gone.</td>
<td></td>
</tr>
</tbody>
</table>
What this is NOT

*A scale to be turned into the student got 90-100% correct (=4) or 25-50% correct (=2).

*Each item on the assessment is of equal value (this may or may not be true)

- The whole assessment should be considered toward the level of understanding.
- Some items within it may be valued more than others.
Determining Levels of Understanding

Go to the shared folder

-Open the “Atoms and Molecules Can I…” PDF
Determining Levels of Understanding

Go to the shared folder

-Open the “Score these tests” PDF
Determining Levels of Understanding

Work on your own or with a colleague to look at each of the student examples and decide where you would place each assessment on the SBG scale. Please write your ideas on a piece of paper. Be prepared to discuss.

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Determining Levels of Understanding

1. What was easy about the process?
2. Which student work examples did you think were easy to score? Why?
3. What was challenging about the process?
4. Which student work examples were difficult? Why?
5. Overall reflections and questions on this experience?
Feedback - always room for improvement

**Population Ecology Lab Report**

1. The guiding question was, “What factors affect population size in song sparrows?” Use the data you collected on Student Sheet 3.1 to do the following:

   a. List the variable(s) that had a positive effect on nesting success.

   Temperature, it’s positive because it increases the nesting rate increased.

   b. List the variable(s) that had a negative effect on nesting success.

   Rainfall. Breeding. Local Parasitism rate. Brood Parasitism rate. Female aging. Level of Inbreeding. Negative because some had a big drop or even a little drop in the percentage. Decreasing the nesting rate.

   c. List the variable(s) that had no effect on nesting success.
Questions, Sharing, and Discussion
Resources

all things standards-based grading
Secondary Standards-Based Grading in Iowa

Levels of SBG Implementation:

Full = Implemented at all grade levels or content areas.

Moving Forward = School has implemented in some, but not all grade levels or content areas. A plan is in place to scale SBG system-wide within the next 1-2 years.

Beginning Soon = School has one or more teachers currently implementing SBG with plans to scale further within the next 3-4 years.

Beginning Later = School has one or more teachers currently implementing SBG with plans to scale further within the next 5+ years.

Investigating = School has one or more teachers currently implementing SBG, however does not currently have a plan to systematically shift to SBG.

No Plan = School does not use standards-based grading in any classrooms, and is not planning to do so at this time.

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