The Transition to Standards-Based Grading

John Blumenreich  
*Illinois Wesleyan University*

Leah Nillas, Faculty Advisor  
*Illinois Wesleyan University*

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THE TRANSITION TO STANDARDS-BASED GRADING
John Blumenreich and Leah Nillas*
Educational Studies, Illinois Wesleyan University

Research Questions
- What are the benefits of using standards-based grading? How do I integrate standards-based grading into a mathematics classroom?
- Standards-Based Grading is a method of assessing students by determining different levels of achievement (Marzano, 2010).

Methodology
- Participants were 46 honors precalculus and 38 relearn geometry students in a high school.
- Standards-based grading was used to assess students throughout the semester.
- Data sources collected include students’ graded summative assessments, a general grading rubric, and students’ survey results on standards-based grading.
- A theoretical framework was used to examine standards-based grading, a new method of assessment.

Results and Data Analysis
- Quantitative data listed in Table 1 is consistent with Clymer and Wiliam’s (2006) research which suggests that students being assessed under a standards-based grading system demonstrate deeper understanding of different learning objectives.
- The data from Table 2 suggests that students became comfortable with and favored standards-based grading after one semester.
- Triangulation of content-analyzed data demonstrates the usefulness of standards-based grading in classroom assessment.
- Iamarino (2014) argues that standards-based grading focuses on comprehension and quality of work versus points-based grading.

Literature Review
- Standards-based grading allows teachers to focus on what learning objectives students are struggling with (Iamarino, 2014).
- Giving students second chances to demonstrate their understanding of particular concepts can help them achieve subject mastery (Deddeh, Main, & Fulkerson, 2010).
- Using proficiency scales provides students with immediate feedback on what standards they are and are not meeting (Marzano & Heflebower, 2011).
- Assessing students using standards-based grading can help teachers develop and use new and innovative assessment strategies (Scriffiny, 2008).

Table 1: Average Scores on Honors Precalculus Summative Assessments

<table>
<thead>
<tr>
<th>Summative Assessment</th>
<th>2nd Period (21 students)</th>
<th>5th Period (25 students)</th>
<th>2nd and 5th Periods (46 students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1 (Matrices)</td>
<td>13.10/15.00</td>
<td>12.60/15.00</td>
<td>12.85/15.00</td>
</tr>
<tr>
<td>Unit 2 (Vectors)</td>
<td>12.79/15.00</td>
<td>12.29/15.00</td>
<td>12.54/15.00</td>
</tr>
<tr>
<td>Unit 3 (Sequences and Series)</td>
<td>12.12/15.00</td>
<td>12.06/15.00</td>
<td>12.09/15.00</td>
</tr>
<tr>
<td>Unit 4 (Ellipses and Circles)</td>
<td>12.01/15.00</td>
<td>12.00/15.00</td>
<td>12.01/15.00</td>
</tr>
<tr>
<td>Unit 5 (Hyperbolas and Parabolas)</td>
<td>12.46/15.00</td>
<td>11.92/15.00</td>
<td>12.19/15.00</td>
</tr>
</tbody>
</table>

Table 1: Students’ average summative assessment scores demonstrate high levels of understanding.

Table 2: Initial and Post-Reactions on Standards-Based Grading from 5 Honors Precalculus Students

<table>
<thead>
<tr>
<th>Student</th>
<th>Initial Reaction</th>
<th>Post-Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>I don’t feel like the rubric will help me receive partial credit.</td>
<td>&quot;I really like standards-based grading because it tells me what I know and what I need to retake!&quot;</td>
</tr>
<tr>
<td>Student 2</td>
<td>I think it’s alright</td>
<td>&quot;I am getting more used to it.&quot;</td>
</tr>
<tr>
<td>Student 3</td>
<td>I really don’t know if I’ll like it or not.</td>
<td>&quot;It was nice to see what things I knew and what I didn’t know.&quot;</td>
</tr>
<tr>
<td>Student 4</td>
<td>I don’t have an opinion on it.</td>
<td>&quot;I like it because I know I don’t need to study until the retakes.&quot;</td>
</tr>
<tr>
<td>Student 5</td>
<td>I think I’ll like this grading system.</td>
<td>&quot;It helped me know what I needed to retake to get a better grade.&quot;</td>
</tr>
</tbody>
</table>

Table 2: Students’ responses to standards-based grading became more positive by the end of the semester.

Conclusion
- Findings suggest several benefits to standards-based grading and different ways to go about implementing this grading system into the classroom.
- Standards-based grading positively impacts the way students demonstrate their levels of understanding.
- Future research is needed in other classes of all disciplines to further support the findings of this study.