Grading for Growth: Using Sliding Scale Rubrics to Motivate Struggling Learners

Dina Mahmood
Samueli Academy, dmahmood@gmail.com

Hugo Jacobo
Samueli Academy

Grading for Growth: Using Sliding Scale Rubrics to Motivate Struggling Learners

Dina Mahmood and Hugo Jacobo (Samueli Academy)

ABSTRACT

In an effort to adopt more equitable and humanizing grading practices, this teacher inquiry explores how educators attempted to improve students' views of learning and assessments by utilizing rubrics on a sliding scale. Using the sliding scale rubric approach to grading provided an opportunity for students and educators to rethink how learning is evaluated. The authors found that the logistics of using sliding scale rubrics as a grading tool does need to be refined and further evaluated; however, the belief that a student can receive a grade based on her or his individual starting point did have some positive implications for students and educators.

Grading for growth by using sliding scale rubrics motivated students to read the rubric more closely and ask more questions about key indicators on the rubric. Once students were able to focus on their target area, they understood the expectations for what they needed to demonstrate. Students who previously appeared unmotivated requested feedback from peers and teachers. This article questions the commonly held beliefs educators can hold about grading and assessment practices and invites educators to rethink the inequitable grading practices that exist in schools.

Keywords: growth, grading, assessment, secondary education, humanizing pedagogy, differentiation

Introduction

While much of our pedagogical practices have evolved over the past years and reflect the current progressive practices of what we consider an effective teacher, we felt that our grading system still felt outdated and in line with a fixed mindset of learning. Grading left us feeling restricted from developing more humanistic pedagogical approaches to learning. Paulo Freire's humanizing pedagogy inspired us to reconfigure schooling oppressive practices in our classrooms (1984). By adopting personalized approaches to learning and building off students' knowledge, educators can move toward a more humanizing pedagogy. The language of measurement and quantification that dominates the mathematics and special education discourse leads to conformity and one-size-fits-all approaches that do not support individual student learning needs (Salazar, 2013). Conversations with parents, students, and fellow educators left us feeling frustrated as these conversations often devolved into students' current grade percentage in the class or their score on a recent test. Rather than discussing their current progress on learning a particular mathematical concept or their creative application of a problem-solving technique to a current problem we were solving as a class, our conversations centered on how to ensure their students get an A in the class. Students who failed assessments continued to fail despite modest improvements, and students who scored advanced on assessments felt unchallenged. By focusing on growth in learning and skills, how can we shift students' attitudes toward a more humanizing approach to grading and assessment?

At the onset of this inquiry, we anticipated stakeholders including parents, students, and fellow educators might resist adopting a grading practice that seemed unfamiliar and untested. Fortunately, we worked at a school site that allowed for experimental approaches to learning, particularly if it would support the learning of students who historically struggle or

fail. This grading for growth system may do more to reward the lower-status student who would experience more growth in a school year than the higher-status student who would experience little growth since that student is consistently scoring advanced. Despite these anticipated challenges, we implemented the sliding scale rubric on a summative assessment that we often use in our classrooms, written portfolios, during the second semester of the school year. Before commencement of the study, we asked the following questions:

1. How does grading for growth impact students and educators in the following ways: views on their ability to learn, views on grading, and their respective connection to school?

2. How can we potentially incorporate rubrics into the development of IEP goals?

3. How can grading for growth as an assessment practice affect student motivation/engagement toward success?

4. How can grading for growth support differentiation in the classroom, particularly for high- and low-achieving students?

We examined the impact that sliding scale rubrics have on student learning and motivation in a secondary math classroom at a project-based learning school. The 12 participants were in the same class and were the students of one of the authors; several of the students who had Individualized Educational Plans (IEPs) were on the caseload of the other author on this study. While there is research on adopting more equitable teaching practices in the classroom, there was little research on using sliding scale rubrics to assess learning in a secondary mathematics classroom. This study intends to add to the repertoire of grading practices that educators can adopt to creating a more positive and humanizing classroom. After implementation of the sliding scale rubrics over several months in the course, the findings showed mixed results in success.

Sliding scale rubrics are not intended as a one-size-fits-all approach to grading, but rather as another tool for differentiation and humanizing grading practices for educators.

Relevant Literature

Grading for Growth

One of the intended goals of using the sliding scale rubric grading practice is to align the grading practice with the growth mindset culture of the classroom. In the article "Assessment for a Growth Mindset," Jo Boaler and Amanda Confer stated that "well-crafted tasks and questions, accompanied by clear feedback, offer students a growth mindset pathway that helps them know that they can learn at high levels and, critically, how they can get there" (2017). Students with a growth mindset believe that smartness can grow through effort, and because of this mindset, students are more likely to have higher levels of achievement, persist, and advance to higher levels of learning.

Comments and feedback that educators provide to students on their assignments need to incorporate more growth mindset–friendly language. Integrating sliding scale rubrics can lead to a growth mindset because they offer a clear pathway for students to achieve success. "Growth mindset" cannot simply be rhetoric in the classroom, but needs to be part of the culture of the classroom. This goes beyond just lectures and discussions to the constructions of our assessments and evaluations as well.

Teachers need to provide evidence that through effort, students can earn higher scores and can succeed. Even if students do get low scores, that should not imply permanent failure: "If not, failure avoidant students will continually be discouraged when they do not receive high scores" (Marzano, 2006). The use of sliding scales rubrics may motivate avoidant-oriented and success-oriented students because the shift is toward improvement over time.

Written Portfolios

To determine which types of assignments or tasks would merit the grading for growth grading practice, we used students' written portfolios assigned at the end of units as a summative assessment of their learning. Rick Wormeli (2006) wrote in *Fair Isn't Always Equal: Assessing & Grading in the Differentiated Classroom* that portfolios are "an excellent way to determine accurate grades for students in differentiated classes" as they have to "explain what work, rationale for what they chose to include" and demonstrate a full profile of student learning.

Rather than use a high-stakes test as an assessment measure for the students, we invited students to explain and demonstrate their understanding of the mathematical concepts studied in their own words.

Sliding Scale Rubrics

As far as the logistical nature and methodology of grading for growth, we were inspired by the work of another educator in the use of sliding scale rubrics to evaluate student work (Aguire, 2012):

Students, parents and teachers alike need to be aware of both where a given student is performing relative to the set standards and how well the student is growing. Those below the line need to catch up, those on target need to stay on target, and those above the line need

to reach ever higher. Taking both growth and performance together gives the most complete picture. The Slide Rubric helps make that possible in simple and transparent terms.

Aguire presented samples of sliding scale rubrics and the rationale behind using the rubrics as a way to differentiate learning for students. Students' final scores were determined by their growth on the rubric based on comparing scores from previous assessments. This model was used in a middle school English classroom, so we wanted to see how this sliding scale rubric model fits within a secondary math classroom that uses writing tasks as a way to assess student learning of math content.

Methodology

Participants

The participants were 12 students, 7 in 10th grade and 4 in 11th grade, including 2 gifted or honors students, 3 students with learning disabilities and IEPs, 2 English language learners, and 2 foster youth. The school is a Title 1 charter school located in an urban working-class neighborhood. A majority of the students at the school qualify for free or reduced lunch. The school provides a project-based learning model for all students in all classrooms. Teachers assess students on their performance in five learning outcomes including written communication, oral communication, collaboration, knowledge and thinking, and agency. The students in this study had previous experience in written tasks and portfolios; however, they had no experience or previous knowledge of sliding scale rubrics.

Implementation of Sliding Scale Rubrics

The sample size was intentionally small since it was unclear how time consuming the implementation of sliding scale rubrics would be because we had to track each student's individual growth, and it was our first time implementing this grading practice. Once a more efficient system was developed, we planned to then apply this grading practice to larger class sizes, if successful at a small scale. The implementation at a larger scale took place after this study was completed.

At the onset of the study, the students were told that the unit portfolios would be graded on growth. Students who showed improvement from previous portfolios would receive a higher grade than if they showed no growth or scored lower on the rubric. There were three portfolios for the second semester, so students had several opportunities to show growth over time. We grouped students based on their previous assessment scores and explained their target area. This allowed the mathematics teacher to provide feedback based on students' current levels more effectively and efficiently. Written feedback might not be read by students and meeting with each student one-on-one would too time consuming. Students had opportunities to seek feedback on the assessment and revise their work before submitting for their final score. They had a week to complete the assignment with some class time devoted to support completion.

Target areas were set for one level above their previous score. For example, students who scored developing on the previous portfolio would receive an A if they scored proficient on their newly graded portfolio. On the previous proficiency-based model, students would only score an A if they met advanced, but in the new grading for growth system, they could earn an A for scoring in a higher domain than previously. If students

K & T			Developing	Proficient	Advanced
			F 10...12...13..14..15..16 D+	C- 17...18...19...20..21 B+	A- 22...24...25... 26 A +
(Overall)			Uses imprecise definitions or incomplete mathematical notation (units of measure, equation formats, etc)	With few exceptions, uses precise definitions and accurate mathematical notation (units of measure, equation formats, etc)	Uses precise definitions and accurate formal mathematical notation (units of measure, equation formats, etc)
Unit			Applies geometry concepts to unit problem but may include	Applies and extends math previous knowledge correctly	Identifies and generalizes the underlying mathematical

Figure 1. Screenshot of rubric used for students who previously scored proficient and needed to score advanced to score an A on the next portfolio assessment.

K & T	Emerging		Developing		Proficient		
	F 10...12...13..		F 14..16 D+/ C- 17...18...C		B- 19...20..21 A- 21...23..25 A		
(Overall)	Uses incorrect definitions or notation (units measure, equation formats, etc)		Uses imprecise definitions or incomplete mathematical notation (units of measure, equation formats, etc)		With few exceptions, uses precise definitions and accurate mathematical notation (units of measure, equation formats, etc)		
Unit	Little or no evidence of		Applies geometry concepts to		Applies and extends math		

Figure 2. Screenshot of rubric used for students who previously scored Developing and needed to score proficient to score an A on the next portfolio assessment.

showed no growth on the next portfolio, they would receive a C, and if students declined or got worse and chose not to revise their work, they would receive a D.

We kept track of their scores on an Excel spreadsheet. We coded 1 as emerging, 2 as developing, 3 as proficient, and 4 as advanced. A score of 1.5 indicates that the student scored between emerging and developing on the rubric. Throughout the process, we documented the process and implementation, as well as student reactions to the process. We discussed the challenges we faced in implementation and strategized on ways to tweak the implementation so that it would be more successful throughout each iteration of the sliding scale rubrics.

Surveys

We surveyed the students through Google Forms on their attitudes toward learning, success, and grading in the classroom. We gave a similar survey at the beginning of the semester and at the end of the semester during class. The results of the survey were stored electronically. We displayed a summary of the results of the survey during class and asked for students' feedback on whether the summary adequately captured their thoughts. The students were asked to clarify or confirm certain statements as a way to member check the data. Questions on the survey included their attitudes toward grades, ability to achieve an A in the class, and motivation to improve based on previous feedback or scores. The postsurvey had similar questions as the presurvey and also asked questions regarding the implementation of the sliding scale rubric.

Findings

Student Attitudes and Motivation

At the onset, students for the most part felt motivated by the grading for growth system since it provided a clear pathway toward success for the students and set achievable targets for

them. One student wrote: "I guess it's a good thing because if [you're] actually improving you should get rewarded for your process." Students also appreciated rewards for their growth, even if they hadn't met proficiency yet. All students felt challenged by the expectations of growth, but some expressed negative attitudes toward the expectation. One student remarked, "(One concern I have is) that if I'm at the limit of growth where I cannot improve would mean I'd receive a lower grade." Several students expressed concern that they would reach the point of no growth and would receive low scores because they were no longer improving or growing.

In the postsurvey, most students expressed that they felt motivated to improve with the new grading system: "Yes, I felt motivated because you know that all you have to do to get a better grade is to do better than last time which would be easy because you know what you did wrong." Students recognized the reward for growth and that their previous score was not a fixed label. Students recognized that in order to improve, they needed to read the rubric more clearly. Another student expressed that the new sliding scale rubrics forced them not to settle for proficient, but rather push for advanced on the rubric. Ten of the 12 participants indicated that the new system did motivate them. Another student felt that the new grading system was a motivation to do better because "I knew what I had to shoot for and I tried hard to achieve that."

Student Scores and Growth

Most students showed growth; however, a handful showed no growth at all throughout the process. On the first iteration of the process, six students showed positive growth, two had lower scores, and four students received the same score as their previous portfolio. After the second iteration, three students had improved scores, four had lower scores, and five students had no growth. Further investigation is needed
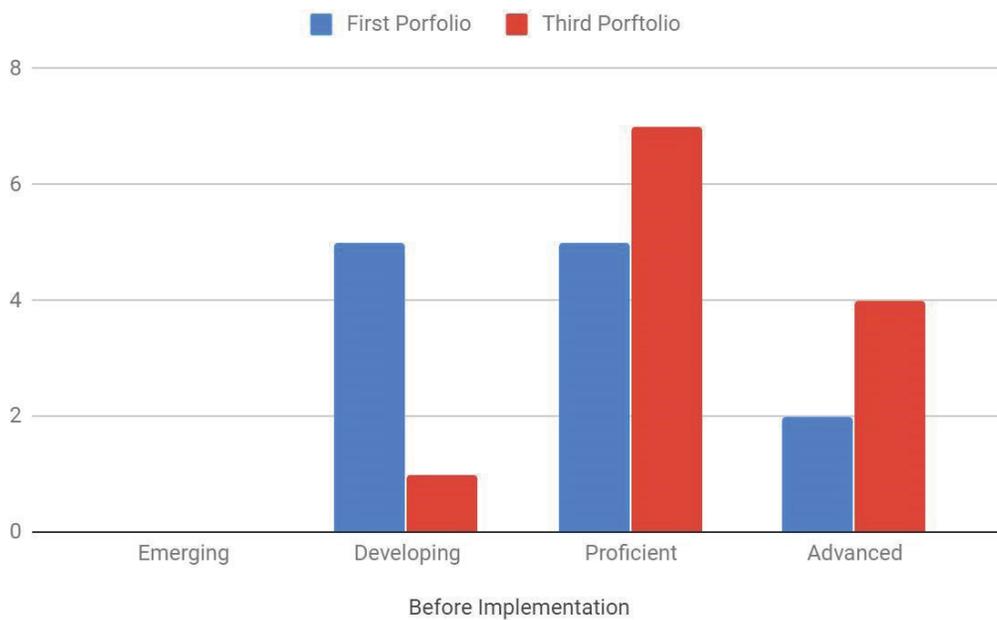
Figure 3. Scores of students on first portfolio as compared to scores on last portfolio.

Table 1. Number of students who showed growth on portfolios.

	Positive Growth	Negative Growth	No Growth	Emerging	Developing	Proficient	Advanced
First Portfolio	-	-	-	0	5	5	2
Second Portfolio	6	2	4	0	2	6	4
Third Portfolio	3	4	5	0	1	7	4

as to why those particular students did not grow and why more students did worse on the last portfolio. It is possible that the final portfolio assignment or mathematical concepts were more challenging or that students were less motivated toward the end of the school year.

Before implementation of grading for growth, two students were scoring advanced on the rubric. After implementation, four students scored advanced on the rubric. Compared to the first portfolio, more students scored advanced on the last portfolio, while fewer students scored developing. The average score on the first portfolio was 2.83. The average score on the second portfolio was 3.04, and the average score on the last portfolio was 2.91. Overall, scores improved and more students were writing and showing their understanding of mathematical concepts at least at a proficient level.

Sliding scale rubrics had a positive impact on student scores. Overall their scores improved and students showed growth. After each iteration, it was harder for students to show growth on their portfolios, which may explain why there was less growth over time.

Effect on Teaching Practices and Pedagogy

During the small group feedback sessions, some students initially expressed dismay that they scored developing on the previous assessment; they made efforts to move toward proficiency. Students realized that their scores were not fixed, and that scoring low only meant there was room for growth. Realizing that we needed to strategically support students since students appeared eager to get better, we developed strategies to support positive growth over time including:

a. Setting internal benchmarks.

b. Providing opportunities for peer feedback during class.

c. Allowing students extra time (usually one more day) to turn in higher-quality work.

d. Clearly articulating to students the look-fors in each band of the rubric and where students should focus for improvement.

e. Celebrating student growth by praising individual student growth in front of the class.

Overall the findings showed mixed success. Some students improved while others did not. Most, but not all, students indicated they were more motivated. Finally, the shift in grading practices toward a growth-based model required us to adopt a more differentiated approach to feedback and support.

Implications and Further Questions

Grading for growth motivated students to read the rubric more closely and ask more questions about key indicators on the rubric. Once students were able to focus on their target areas, they understood the expectations for what they needed to demonstrate. Students who previously appeared unmotivated now requested feedback from peers and teachers on their portfolios in order to determine if they were meeting that strand of the rubric.

Through this inquiry, we continued to ponder our early inclinations for this project. Rick Wormeli (2006), in his book, *Fair Isn't Always Equal: Assessing & Grading in the Differentiated Classroom,* captures a belief that rings true for many educators, including ourselves:

> Grading is one of the most bizarre aspects of teaching. No two teachers grade alike, and everyone thinks their way is the best. I've been doing this for thirty-seven years, and I'm still not happy with the way I grade. Does a grade truly reflect what a student has learned, or how hard they tried, or what they're capable of doing?

At the end of this project, we are still left wondering about the purpose of grading and its role in student learning. Certain grading practices are more humanizing and equitable than others, but no grading practice is perfect. Perhaps that is because grading at its core will continue to be used as a tool to sort and rank students and to decide who gets access and who does not to institutions of power and privilege.

At the completion of this inquiry, we feel that we have thought more critically about what grades mean in our profession and how we can use them to assess students. We have divided these implications into two categories about the next steps we need to take in order to continue these efforts toward a more humanizing approach to grading.

Individual Classroom Implications

Grading using sliding rubrics can work if the following items are considered:

a. It is part of a consistent grading model.

b. Its intent and goals are clearly communicated to stakeholders.

c. It is embedded within individual assessments for knowledge and thinking.

d. There is a structure for reflection, revision, and recitation.

e. There is a growth mindset culture instituted in a classroom or school-wide.

School-Wide Implications

For sliding scale rubrics to become a school-wide practice, the following conversations need to take place:

f. How do we anticipate and respond to possible push-back on the methodology and rationale behind sliding rubrics?

g. How do we maintain consistent messages to parents and students about this grading practice?

h. How do we ensure that consistency in grading practice is ongoing, particularly when consistency is especially valuable for at-risk students?

i. How do we increasing teacher collaboration and development of a culture where growth is valued?

j. How do we begin or increase a critical dialogue about the areas where we want our students to demonstrate growth?

We still have several lingering questions about our teaching practices and the implementation of sliding scale rubrics in the classroom. How do we determine which assignments are worth implementing grading for growth? How can we use the grading for growth model to support individual educational plans for students? Should a student's grade be based primarily on growth or on meeting proficiency? What is the appropriate balance and which model is more equitable? We found that while the shift in the grading for growth criteria did motivate students who already had a growth mindset, there is still work to be done to encourage students to buy into the growth model if they have a fixed mindset about their skills and abilities. Our attempt to humanize the grading system led to mixed success and provided a reminder

that grading is a tool of dehumanizing school practices. We hope that our efforts to use sliding scale rubrics as a technical response to Freire's call for humanizing pedagogy do not "ignore the ideological implications of schooling" (Salazar, 2013). We need to continue to question the schooling nature of our educational institutions and recognize when schooling gets in the way of learning.

Acknowledgments

References

Aguire, B. (2012). *Rubrics for teachers: Differentiation & the slide rubric.* Retrieved from https://owlcation.com/academia/Student-Success-via-Effective-Differentiation-The-Slide-Rubric

Boaler, J., & Confer, A. (2017, April 1). Assessment for a growth mindset (p. 2). Stanford University. Web.

Freire, P. (1984). *Pedagogy of the oppressed.* New York, NY: Continuum.

Freire, P. (1997). *Education for critical consciousness.* New York, NY: Continuum.

Marzano, Robert J. (2006). *Classroom assessment and grading that work.* Bt Bound.

Salazar, M. C. (2013, March). A humanizing pedagogy: Reinventing the principles and practice of education as a journey toward liberation. *Review of Research in Education, 37,* 121–148. https://doi.org/10.3102/0091732X12464032

Wormeli, Rick. (2006). *Fair isn't always equal: Assessing & grading in the differentiated classroom.* Portland, ME: Stenhouse.

Dina Mahmood is a secondary educator with credentials in mathematics and social studies. She currently teaches mathematics at a project-based learning school in southern California. She is also a doctoral candidate in the field of education at Chapman University.

Hugo Jacobo is a secondary educator with credentials in special education, English, and social studies. He currently teaches American studies at a project-based learning school in southern California.