

## SECTION FIVE

### Discussion

#### Introduction

“Points? Your perception of what makes up a student’s grade is disappointing.”

In an instant, eight years of perceived “awesomeness” was swatted away like a horse fly.

In 2008, I was in my eighth year as an educator – and pretty confident that I knew what I was doing. I brought history to life through booming lectures and crazy uniforms. After all, nothing gets the attention of a 14-year-old student with ADD quite like having their 6’3” teacher wearing 75 pounds of chain mail mock fighting infidels across the desks during a lecture on the Crusades. I did not use the course text and instead wrote my own material intermixed with humor and “Did he say that?” flashes of wonder and amusement. I lived for the “Ah-ha!” moment when I could see a student “get it.” My burly build, shaved head, shaggy beard, and tattoos gave me a head-start on discipline, although my push-up policy helped put a pep in the step of even the best hallway roamers. Indeed, at a quick glance, I was owning it.

Until that conference.

I consider the “What is in a grade?” question that I attempted to answer in front of 300 teachers during a conference on assessment and differentiation in downtown Columbus to be the turning point in my young career. I left understanding that, up until that moment, grades in my class simply showed that students were able to “play the school game.” They knew how to work the points system. Grades in my class reflected whether or not students gathered enough points and were not true reflections of their mastery. I used grades and threats like, “If you do not get a ‘C’ on your final, you will not be eligible in the fall!” as extrinsic motivators. The problem is,

students have to be intrinsically motivated, meaning their desire to achieve and improve has to come from within themselves. Intrinsic motivation clearly conflicts with the use of grades as extrinsic motivators (O'Connor, 2007). As a result, I had to change what grades “meant” in my classroom, which ignited an overhaul of how students would be assessed.

For an entire summer, I wrestled with the question of “What does a grade truly reflect?” Is it what a student knows at the exact moment when they take a test? Or is it a representation of what they know from a variety of activities and assessments? Additionally, what role do grades play in truly assessing what a student does or does not know? I found myself asking what I saw as more important – that 70% of my 150 students know the material on November 7th, an arbitrary date picked by me as the day in which every student must prove their mastery of the American Revolution, or that 100% of my 150 students master the material at some point during the school year?

*Can my students recall information they have been taught?*

*Can they apply what they know to future problems?*

*Will they remember it when they leave the classroom?*

*Do they memorize the material for the test – then forget it all?*

These questions became my marching orders, and I turned to Mastery Teaching and Mastery Learning to direct my classroom’s reinvention. By adopting Standards-Based Grading (Mastery Teaching) and the use of differentiated reassessment (Mastery Learning), I hoped I could boost motivation among students and get them to *want* to do better in history, to *believe* they could do better, and to *actually* do better. In theory, if I could get my students to become more motivated and metacognitively aware of their abilities, then their retention (and mastery) of

state-mandated material would be demonstrated by significant gains between district tests given at the start and end of each semester. This instructional inquiry project looked to determine just that, and, after running statistical tests using SPSS, I was able to conclude that a SBG classroom that uses differentiated reassessment *does* result in higher EOCA scores and more grade motivation among non-honors students. My classroom overhaul in 2008 was not in vain.

Specifically, I used 232 survey respondents to examine my first hypothesis (metacognition) and my second hypothesis (motivation). One hundred and sixteen students were in my SBG classes while 116 were in the non-SBG classrooms (80 from Mr. E; 36 from Mr. O). This whole group comparison examined students in both honors and non-honors sections and cut across both SBG and non-SBG classes. I was unable to reject the first null hypothesis ( $H_{01}$ ), meaning there is no statistically significant difference in the metacognitive effect of how 9<sup>th</sup> grade students (as a whole) perceive their learning in a social studies classroom that utilizes differentiated reassessment within a standards-based curriculum and students in traditional classrooms. I was also unable to reject the second null hypothesis ( $H_{02}$ ), meaning there is no statistically significant difference in the motivational effect of how 9<sup>th</sup> grade students (as a whole) perceive their learning in a social studies classroom that utilizes differentiated reassessment within a standards-based curriculum and students in traditional classrooms. However, there is a statistically significant difference among non-honors students when it comes to *grade* motivation (SMQII's Factor 5).

All 327 student SOCA and EOCA scores were used to calculate averages for each American History 1 class's pre- and post-tests. Of the 327 students, 124 were in my SBG classroom and 203 were in the non-SBG classrooms (127 in Mr. E; 76 in Mr. O). Overall, my non-honors and honors students (combined) and my non-honors (individually) produced higher

Hake Gains on their EOCA than the students in the non-SBG classes. I was able to reject the third null hypothesis ( $H_{03}$ ), meaning there is a statistically significant difference in the improvement between SOCA and EOCA scores of students in a social studies classroom that utilizes differentiated reassessment within a standards-based curriculum and students in traditional classrooms.

### **SOCA/EOCA Hake Gains**

The results of the Hake Gain calculations between SOCA and EOCA provided some reassuring validation to my SBG classroom. When all students were taken into account and not separated out into honors and non-honors, SBG students produced larger Hake Gains (71.49%) than the non-SBG students (63.57%). When the tests were broken into sub-categories, the difference between SBG honors students (74.4%) and non-SBG honors students (73.2%) was statistically non-existent, while the difference between SBG non-honors students (70.31%) and non-SBG non-honors students (58.11%) was quite staggering.

Research by Block and Burns (1976), Willent, Yamashita, and Anderson (1983), Guskey and Gates (1986), and Guskey and Pigott (1988) verified that positive improvements in student learning result from the careful and systematic implementation of Mastery Learning (like my differentiated reassessment). Kulik, Kulik, and Bangert-Downs (1990) found that Mastery Learning had positive effects on not only the test scores of students, but also on student attitudes toward course content and instruction. The larger Hake Gains for the non-honors population appears to corroborate Bloom's (1968) argument that all students are fully capable of learning if placed in an environment that requires them to attain "mastery" before moving forward in their course material. A classroom that emphasizes learning over grades helps students validate their

education (DeKeyrel, Dernovish, Epperly, & McKay, 2000). Is it this validation – this idea that school is more than “points” – that produced such Hake Gains for my non-honors students? Does my SBG classroom and differentiated reassessment reveal to non-honors students the possibility that they can, in fact, “do” school – a thought that may not manifest in a traditional classroom? Does this newfound confidence give non-honors students the same perception that honors students already have? If honors students do not need validation as to the importance of school – and they enter the classroom knowing they can handle whatever expectations the teacher sets for them – is this why my honors students did not have larger Hake Gains than the non-SBG honors students? I suspect that my honors students did not need to be reminded of the importance of reassessment like my non-honors students, which is why offering such extended opportunities of mastery did not have as large of an impact on them. Since honors students are generally predispositioned to be “point hounds,” did they see reassessment as a way to improve their grade instead of as a way to master the material? In other words, is the entire concept of remastery and reassessment lost on them entirely? I would argue this helps explain why SBG and differentiated reassessment is more effective on non-honors students than on honors students.

### **The Curious Case of Factor 5**

Of all the survey factors that came back statistically significant, it was Factor 5 (*Grade motivation*) that remained the most curious. The 64 non-honors students in my SBG classroom that completed the SMQII scored significantly higher in grade motivation than the other 54 non-honors students in the non-SBG classrooms. In dissecting Factor 5, we find that grade motivation is defined as “important short-term goals that measure [high school] success and are part of the entry criteria for many careers” (Lin, McKeachie, & Kim, 2003 – as cited by Glynn et al., 2011,

p. 1162). The score for this came from Questions 2, 4, 8, 20, and 24 (see Table 12), all of which successfully loaded when I ran PCA.

Table 12

*AHMQ's Factor 5*

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***Grade motivation***

Question 2. *I like to do better than other students on history tests.*

Question 4. *Getting a good history grade is important to me.*

Question 8. *It is important that I get an "A" in history.*

Question 20. *I think about the grade I will get in history.*

Question 24. *Scoring high on history tests matters to me.*

*Note.* As cited in Glynn, Brickman, Armstrong, and Taaobshirazi (2011, p. 1167).

While it is fairly common knowledge that honors students are motivated by good grades – despite efforts by teachers nationwide to stress “learning” over “points” – is it possible that my SBG classroom turns non-honors students into the very thing we try to change our honors students out of being? That is, are they missing the point of education by becoming overly absorbed by points rather than mastery?

However, the feedback component of a classroom that uses SBG is where this system differs from the traditional “you failed the test” approach (and also why it falls in the category of Mastery Learning). In a SBG classroom, rubrics often replace the customary letter grade and provide students with scores on a four-point scale, including: Level 4 (“Mastery Achievement”), Level 3 (“Proficient Achievement”), Level 2 (“Basic Achievement”), and Level 1 (“Insufficient Achievement”). Level 3 and Level 4 means the student has demonstrated “mastery” for that particular standard/strand/theme, whereas Level 2 and Level 1 shows that the student did not. In

my SBG classes, students are given additional time (generally two weeks) to demonstrate mastery following an assessment in which they do not earn Level 3 or Level 4 for every unit standard covered. A student's reassessment can come in the form of explaining the key points of the essay in a short-answer response, completing a project, discussing the topic with me in a one-on-one conference, or by way of any number of approved methods. When students demonstrate that they have mastered the state standard – even at a later date than their peers – their score is changed to reflect their new mastery.

These feedback and differentiated reassessment procedures in a SBG classroom offer a less negative interpretation of SBG non-honors students' higher grade motivation. I view this increase in the grade motivation of my non-honors student as happening for one of five reasons, detailed below.

1. *Hope.* Perhaps non-honors students have never been faced with such a detailed breakdown of their performance on a unit test – and in providing them with areas of weaknesses *and* strengths, non-honors students see that “all is not lost.” There is hope that they can still demonstrate to me that they do, indeed, know the material.
2. *Ownership.* Perhaps non-honors students take ownership of their own grades now that they have been handed the keys to reassessment. If they want a better grade, they must do reassessment. By cutting out the ability for them to make excuses as to why they did not master the material the first time through and showing them how to fix their grade, they take ownership of their education.
3. *Me against the world.* Perhaps non-honors students no longer see me, their teacher, as the “bad guy” who gave them the “bad grade.” By offering multiple opportunities to be

reassessed, I show my non-honors students that I truly am interested in seeing them do well – otherwise I would just give them their “D” and move on. By tearing down the traditional walls that often separate teachers and students, education can be viewed as a partnership rather than “me against the world.”

4. *I learn better this way.* Perhaps non-honors students struggle with traditional standardized tests. Unfortunately, until such tests disappear, students still need to know how to take (and be successful on) these tests. However, such practice can be afforded them in my classroom because poor performance does not necessarily mean they do not know the material. In writing an essay, opting for verbal reassessment, or completing a piece of poetry or a song, these students prove they know the material. Their low performance came not in knowing the material – but in not knowing the test. After being exposed to the content numerous times following assessment (often in a manner that played into their specific learning style), something “clicked.” Quite realistically, the mnemonic devices concocted to rhyme portions of the Bill of Rights or the Gettysburg Address for a song written as part of reassessment helps “re-teach” that material in a way that this student can recall when faced with a question on a standardized test about the first 10 Amendments or the significance of President Lincoln’s speech. Students take what they missed the first time around and repackage it in such a way that now they are their own teacher. Reassessment effectively gave them a way to learn and retain content information that can be applied to future material and future assessments.
5. *Fear of God.* Perhaps knowing that their parents/guardians, administrators, counselors, and coaches all know that they had two weeks to improve their unit grade... and they chose not to complete any reassessment... puts the onus square on them.



## **Implications for Practice and Future Research**

My SBG classroom that uses differentiated reassessment was found to produce statistically significant gains on the EOCA for my students, with major gains calculated for non-honors students. These students were also found to have more grade motivation than their peers in the non-SBG classes. While reasons for this increase are speculative, statistical analysis did point to my SBG classroom as potentially promoting this change in motivation among non-honors students.

Moving forward, I would like to see future research done on whether male and female students benefited differently (or not at all) by being in my SBG classroom. Data collected from the NAEP from 2000-2007 found that girls in Grades 4 and 8 outscored boys in reading and writing, whereas boys outscored girls in math (Louie & Ehrlich, 2009). Tomlinson and McTighe (2006) interpreted gender gaps as further proof for the necessity of differentiation in every classroom. Thus, future research into the benefit of standards-based curriculum and differentiated reassessments would lend itself nicely to the gender gap discussion.

In addition to examining differences between the gender gap, future researchers could look into the role such a system plays in improving the gap in scores between whites and minority students. Students who receive free-and-reduced meals, students who come from lower socioeconomic backgrounds, students on IEPs, and students who are not native English speakers all provide key demographic test groups that need to be studied in-depth.

Further research should replicate the study with a different subject or with multiple classrooms. Since not many subject areas have teachers that have adopted a SBG classroom (or differentiated reassessment), the pool for such research would be limited. However, at the same school where this study was conducted, the Health and Physical Education Department,

American Government, World History, sociology, psychology, and most of the lower-level math courses have implemented grading policies that offer reassessment.

### **Is it worth it?**

It has been eight years since that fateful conference on grades pointed out my shortcomings as an assessor of student mastery to an auditorium full of my peers. While the biting condemnation of my meager answer of “points” grows less and less painful as the years distance me from such a poorly concocted, “on the spot,” knee-jerk response, there is not a summer that goes by without asking myself, “Do I continue this next year?” Am I a better teacher today than I was eight years ago? If I am, is it because of SBG and differentiated reassessment? Since half of my career was spent not using it – and half has been spent serving as SBG’s de facto cheerleader – where do I stand *right* now?

I wish I could return to the conference and pose the presenter with the question that I am asked at the end of every conversation about adopting Mastery Teaching and Mastery Learning and overhauling one’s entire approach to teaching and grading – *is it worth it?*

It depends. Are you in it for the “As” – or the “Ahhhs”?

When teachers take the plunge into the world of Mastery Teaching and Mastery Learning, they are, in essence, rolling the dice. Such approaches to education always read easier in books and articles – and come across as “manageable” during after-school in-service meetings. In actuality, the initial set-up is like programming the clock on a VCR. While it seems simple – just hold down the red button and press this other one, right? – the fact is, the second you get it set, the power goes out, and eventually you accept the constant blinking reminder of your ineptitude. Installing (and maintaining) a SBG classroom requires an amazing amount of patience and a willingness to frequently explain (and defend) “how it works” to any number of

invested parties (like students, parents/guardians, other staff members, and administration).

Providing students with enough (but not too much) post-assessment feedback so they can begin their differentiated reassessment turns every test into a multi-week undertaking. New classes and curriculum changes put SBG teachers on edge when they hear murmurings that administration is going to “shake up” teacher assignments.

And for what? Higher Hake Gains? Grade motivation?

I will admit that I was disappointed when my students did not return higher metacognitive and motivation scores outside grade motivation for non-honors. It takes a lot of work to run a SBG classroom – and the only metacognitive/motivational difference is I successfully transformed my non-honors students into potential grade grubbers? I was discouraged, that is, until I looked back over my students’ reassessment for my unit on the Great Depression. As I poured through the poetry, song lyrics, essays, and even a “Hooverville” mini-board game, I remembered why SBG works: it makes school not feel like school for both the student *and* the teacher. I had one student write a short children’s book about the Great Depression. He patterned it after Dr. Seuss’ *Green Eggs and Ham* and called his version *Green Eggs and SPAM*. Utter brilliance. Another student responded to a blog article about the stock market on a Wall Street website. Yet another had a rousing 15-minute after-school debate with me about whether or not FDR’s “New Deal” should be considered a failure by today’s economic standards. That is correct. A 14-year-old, non-honors student... talking about a topic most adults do not fully understand... after school... with his teacher... just one week after he missed *every* question about economics on the unit test.

Those are the moments that make SBG and differentiated reassessment worth the time spent after school, late at night, on the weekends, during holiday breaks, and in the summer.

I am in it for the “Ahhhs.”

Despite facing a major uphill battle to get students, parents/guardians, colleagues, and administration to “buy in,” I am happy to see the impact my approach to education has had on my school. During inquisitive conversations and debates in the staff lounge concerning my new “take” on grading, I often turn to a quote from *The Kite Runner* that hangs in my classroom: “*You can be good again.*” Hopefully, the findings of this recent study will contribute to more teachers realizing that every student is capable of mastering their course material, even if that comes weeks after they have been formally assessed.

### **Limitations**

Having access to the SOCA and EOCA of 327 students had the potential to generate a massive amount of data. Unfortunately, my LDS prevented the use of individual SOCA and EOCA scores. While using class averages still generated a significant difference in the Hake Gains for my students and non-SBG students – especially among the non-honors students – it produced a very low effect size (Cohen’s *d*). A larger *d* would have been preferred.

I was fortunate to have collected 232 of 327 possible survey responses (71% participation rate). This gave my study a massive sample size, which gave more validity to the results. The identical breakdown of respondents in my classes and the non-SBG classes (116 in each) also contributed to my study’s legitimacy. Certainly, having all 327 students cooperate and answer the two surveys would have been ideal, but when dealing with 14 and 15-year-olds, such an expectation is highly unrealistic.