12 December 2019

Dear Mr. Lamboley,

As other core departments from NCHS have made their feelings known about standards-based grading (SBG), the Science Department feels it is important to join the conversation. On the surface, it may seem that our opinion would carry less weight than that of other departments because we have not yet implemented SBG in any of our courses. However, our teachers have been operating under the assumption that SBG is coming to their classrooms soon, and so much of our PLC time—and planning time, and personal time--has been devoted to considering how SBG might look in a science classroom. Furthermore, our chemistry teachers have been working diligently on their SBG task force and in their PLC toward SBG implementation for next year. In that work, they have talked with teachers from other departments who are currently using SBG, and they have thoughtfully considered the many issues involved. Our teachers have also drawn on their many years of teaching experience (an average of more than 17 years each) to try to anticipate potential problems with SBG. So, while we might not have direct knowledge of the use of SBG, we have spent significant time and energy pondering its effect in a science classroom. We appreciate your thoughtful consideration of our concerns.

We have read the concerns brought forth by the NCHS Social Studies and English Departments; the NCHS Science Department is in complete agreement with their collective message about SBG. In Science, we are resisting this move toward mandated, across-the-board SBG not because of laziness or from a fear of trying something new, but because each and every one of the NCHS Science faculty believes that this movement is detrimental to students, both now and for their futures. It is our firm belief that the use of SBG should be solely at the discretion of each individual teacher.

The NCHS Science Department's concerns regarding SBG:

- **Students (and parents) still care only about grades.**
  A fundamental argument for making the switch to SBG is that students and parents care more about learning than about grades. Based on that assumption, the line of thinking goes that we will change conversations from "How do I raise my grade?" to "How do I improve my understanding of this particular learning standard?" However, no matter how a student phrases the inquiry, the student's sentiment with regard to outcome (i.e., the grade) remains the same. This is because the initial assumption cited above is simply wrong, and it is disingenuous to argue otherwise. As final exams approach, it is once again being made apparent to all of us in the trenches that high school students don't really care about how well they understood a standard back in October; their primary concern is what grade will end up on their report card.

- **Students are already demonstrating a diminished sense of responsibility, even in non-SBG classrooms.**
  Even though science classes are not yet using SBG, our current science students are already showing negative learner characteristics related to their experiences in SBG classrooms. Even Honors-level students are not doing all of the assigned work, are not meeting deadlines, are not trying their hardest from the outset, and are automatically assuming that retakes will be available for any assessment. This trend of laziness - as well as a notable lack of immediacy - holds true across the board in all science classes; we believe this is because, in their SBG classes, learner characteristics related to responsibility, while perhaps recorded separately, can't be used in determining a student's grade.

  With SBG, we are setting a dangerous precedent for our students moving forward. For better or worse, people thrive and progress on a system of rewards and consequences. That kind of thinking is built into the structure of civilization, and our students will someday have to conform to those most-basic rules of society. The consequences will be painful and expensive if they don't. Would teachers take attendance regularly or show up for assigned duties if it didn't affect evaluations negatively? Would people pay their taxes and monthly bills on time if there were no consequences? Some would, but most wouldn't. Such things have absolutely nothing to do with the inherent quality of a human being; they are simply reasonable expectations placed upon us as adults. To remove a rewards-consequences system from the life experience of developing adolescents and to

replace it with a system where hard work isn't rewarded and deadlines are wishy-washy at best...is to do a great disservice to the young people in our charge.

- **Science courses are content-driven, not skill-based.**
  In conversing with our colleagues in the English and Social Studies Departments, it appears that their SBG classes have moved to a skills-based - as opposed to a content-driven - curriculum. This new focus better lends itself to assessing the same handful of standards multiple times, in multiple contexts, throughout the semester. Science courses, however, are primarily content-driven. All science classes require that a student must have an understanding of specific content in order to conduct any skill-based application. On our SBG chemistry task force and in our PLC, the question was raised: Is it possible to make our curriculum skills-based? The answer was emphatically...no; it is impossible. Distilling science down to a mere set of skills is appropriate only for a general science/laboratory class. In all our courses, students need to know some science before they can do some science.

  So, if a skill-based curriculum is impossible for science classes, what about using SBG in a content-driven curriculum? In a given semester, a science course could have upwards of 25 content standards, making it absolutely impractical to assess all of them multiple times, let alone to reassess as well. For SBG to work, we would have to winnow down that number, either sacrificing the ability to assess critical content or making the standards so broad that they won't give students valuable and specific feedback. Neither option is acceptable in order for our students to receive the science education they deserve. We're not contesting that SBG might lend itself well to certain departments and certain courses; however, it does not work well for science.

- **There is greater inconsistency surrounding grades than ever before.**
  With regard to the implementation of SBG, there are now gross inconsistencies from one department to the next. Departments and individual teachers are interpreting the meaning of each value on the four-point scale differently. For example, some say a 4 means exceeding expectations; others say it means mastery. Some say that a 4 is virtually impossible to reach; others say that it equates to what would have been a high A. A major argument for implementing SBG was that a traditional grade book (90/80/70/60) is inconsistent between teachers and/or courses and/or departments. Of course it is; all evaluative scales are inherently subjective. However, aside from the fact that everyone basically understands a traditional gradebook, such a scale allows discernment of student performance with greater precision, as compared to the handful of broad categories (4/3/2/1) in SBG. For instance, students are left questioning: What does a 2 mean in THIS class, compared to another class? I just forgot a negative sign on my answer, so why did I drop from a 4 to a 3, when last semester my teacher didn't penalize me? Students are more confused than ever about grades due to these inevitable inconsistencies.

- **Parents were relieved to hear that we were still using the traditional grade book in Science.**
  We heard from parents at Open House and conferences that they were relieved that we were still using the traditional grading system. For whatever other faults a traditional grading system might have, parents (and students, and teachers) understand the meaning of a particular grade in such a system. SBG was sold to all stakeholders on the grounds that it would make the understanding of grades more effective and efficient. It has had exactly the opposite effect, and is generating serious angst among parents (and students, and teachers).

- **For years, we've been told that our district is "data driven." If that's true, then we need to gather real data to determine the effectiveness or ineffectiveness of SBG.**
  Unit 5 should be collecting any and all available data to ascertain SBG's effect on student learning. We should be making an honest and concerted effort to survey Unit 5 students, parents, and teachers to see how they feel this complete overhaul is going. We should be analyzing the results of norm-referenced tests (e.g., ACT, SAT, MAP scores, etc.) to identify trends and how those trends might or might not relate to this radical paradigm shift in assessment. Students, parents, and teachers have been repeatedly told that SBG improves student

learning, but no data/evidence has been presented that supports such a conclusion. We must not turn a blind eye to information that will give us feedback - both quantitative as well as anecdotal - about this change.

With all of the above being said, we don't believe SBG has been a completely wasted venture. SBG seems to be appropriate for much at the elementary and junior high levels. Even at the high school level, there are teachers who have totally embraced it. Furthermore, it has forced us to stop and reflect on our practices and have crucial conversations that have benefited everyone involved.

The foundation of standards-based grading is standards-based learning. The Science Department has been doing that for many years, which has resulted in our courses being more aligned as a department and a district than ever before. When standards-based learning is our focus, our PLC time allows us to discuss issues of curriculum and instruction and, of course, assessment. Those are the conversations that lead to great teaching and learning.

It is our unanimous opinion that the only solution is to make SBG optional for individual teachers at the high school level. This will address all concerns brought up by us and other departments. There are several NCHS teachers who swear by SBG; we support them fully. There are numerous others who recognize particular positive aspects of SBG and have incorporated those into their classrooms. But we also support those teachers who, for whatever reason, cannot be at peace with SBG in their classrooms, either because of inherent incongruities between SBG and their content area, or because of the inconsistencies in SBG's treatment of assessment, or because - in their estimation - SBG reinforces negative habits such as laziness and a casual nonchalance about deadlines. For those teachers, we should trust them - as experienced professionals - to best educate and assess their students.

Respectfully,

The NCHS Science Department