Math Debate Jonathan Coulombe, Sarah Odell, Heidi Hutchison, Robert Quinn March 8, 2015

First Main Point (6 minutes) Standardization vs. Independence?

PRO Speech, 1st Point, Standardization (Heidi 2 min):

Good morning, Sarah and Jonathan. Rob and I are glad you could come back and revisit our conversation about whether to use the Common Core standards here at Independent Prep. The Common Core Standards for mathematics provides all schools, but specifically independent schools, a unique opportunity to utilize a well-researched scope and sequence of standards that support best practices in the teaching of mathematics. Dr. Jo Boaler, a mathematics professor at Stanford University, has done extensive research stating that we need to change the way math is taught in the United States. The Common Core provides teachers a set of standards on mathematical practices, or important ways of working with students in math. These practices in math have never been in curriculum before. The standards now say that students need to be "sense-making, reasoning, generalizing and problem-solving." These standards focus not only on what students should *know* but on what students should *do*. Content knowledge about mathematics is now integrated into mathematical practices. In addition, Conrad Wolfram, cofounder of one of the world's most significant mathematical companies called Wolfram-Alpha, has spoken many times about the math that we are currently spending most of our time on in classrooms which is calculating by hand, versus the math that we actually need to be doing in the 21st century by using computers. Common Core standards address this issue by, as Boaler states, "embracing broader mathematics and requiring the use of advanced technology." The Standards

ensure that students will spend less time using "isolated methods" of calculating answers to simple problems and more time seeing patterns, making connections, using technology, and justifying thinking. Although the standards do not fix every issue, they go further than anything ever has before. Independent Schools are in an excellent position to utilize this as a scope and sequence and add to it as we see fit. We, at Independent Prep can say to our current and prospective families, "By using the Common Core mathematics standards, not only are we using what has been nationally researched as best practices, but we have the freedom to go beyond it and in fact, we do."

Con Cross-Examination of Heidi Above(Sarah 1 min):

Heidi, while I agree that the common core can be a valuable guideline, I am hesitant to say that independent schools should adopt them. As Yong Zhao points out, who is going to train all of our teachers? Didn't we choose to work at Independent Prep because we wanted our administrators to rely on the expertise of their faculty as opposed to some arbitrary national standard? I think that it is always useful to discuss best practices, whether they are coming out of a nationally renowned group of experts or a professional development workshop where educators are sharing what works within their own classrooms. I am always hesitant to rely on people who do not work in our school with our children, rather than our own faculty who have a thorough understanding of our student, parent and teacher constituencies.

CON Speech Standards, 1st Point (Jonathan 2 min):

I'd just like to point out, Heidi and Rob, how thoughtful your ideas were last week about why using the Common Core is a bad idea, and those ideas have really made me re-think my original position. The fact is, the very foundation of independent schools is their independence, which could be potentially compromised by a decision to implement a large-scale national education initiative. As soon as we align ourselves with national standards, we forfeit some of that independence because someone or something else dictates the curricular program we offer our students. The Common Core would constrain our program because it would limit our approach both for our exceptional and our remedial students. The focus of our teachers and administrators would be how Little Johnny is doing on the seventeenth standard and how Little Suzy is doing on the eighth standard instead of concerning themselves with bigger, broader ideas of critical thinking and meaning-making. As Berliner (2007) points out, standardized tests fail our schools and our students and do not necessarily promote or reflect student learning. In the same way, independent schools could get caught up in "box-checking" Common Core standards instead of designing a well-structured program based on the students' interests and/or the instructor's expertise and passion. Some of that interest and passion could be lost by trying to fit a course or a unit into the Common Core box.

Additionally, the CCSS prevents us from having the flexibility to meet the needs of all of our students throughout their experience at Independence Prep. Just as a student allows PSAT scores to define her self-concept as a successful or unsuccessful student, so too would the achievement or lack of achievement of certain standards cause her to evaluate her own ability through external validation. Gamoran, Nystrand, Berends, and LePore (1995) note how ability-grouping creates a

sort of fixed mindset in a student about her ability or inability to succeed, and an unnecessary focus on the Common Core could have this same effect by causing her to attend to national metrics instead of attending to her own educational journey. Oh, I'm sorry, Rob! Were you about to say something? I feel like I've hogged the floor. Please, go ahead!

Pro Cross Examination (Rob 1 min):

Thanks Jonathan. You are right about some of those reservations about Common Core, but after our conversation last week, we went back and did some more research. There is a significant line of thinking in Independent Schools to use the Common Core Standards as a *minimum* standard. As Davies (2014) illuminates, using CCSS as a minimum rather than aspirational standard allows independent schools to maintain their focus on the creativity and individualized attention that are our hallmarks. By adopting the standards we would actually be more attentive to the specific needs of Little Johnny and Little Suzy, because we would gain a deeper understanding and framework for what we do. Rather than patting ourselves on the back, a trap independent schools can often fall into, we would have a benchmark against which to evaluate our program. Robelen (2012) catalogued the opinions of various independent school leaders in an *Education Week* article, and the consensus was that Common Core would provide needed credibility for independent schools. So while I am glad you found some validity in our arguments, it turns out you may have been right after all! Perhaps adopting CCSS would provide positive elements of standardization.

Second Main Point (6 minutes) Assessment

Pro Speech, 1st Point, Assessment (Heidi 2 min):

Rob, this is an excellent point which leads me right into thinking about the issue of assessment. Many times, the white elephant in the Independent School System is the lack of data we have and use to inform our decisions. Common Core Assessments would enable Independent schools to address this very important issue. There are two main consortia, The Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium (Smarter Balanced) that many states are adopting and for good reasons. Both PARCC and Smarter Balanced tests are computer-based assessments which ask performance-based questions that are designed to evaluate students' critical thinking and problem-solving skills. Both consortia also offer teachers midway assessments so that teachers can adjust their instruction accordingly. These computer-based assessments take out the subjectivity of individual teacher assessments that often times ask students cognitively weak questions that only allow for one answer. As I previously stated, Conrad Wolfram states that teachers need to be focusing less on teaching calculating skills when computers can do that for us, and more on teaching critical thinking and problem-solving skills. Common Core standards provide more interesting ways to do math for students and it is closer to the way real math works in our 21st century world. Shouldn't we be using assessments that mirror that sentiment? Furthermore both PARCC and Smarter Balanced assessments are pretty cost effective. The PARCC assessment will cost less than \$24 per student and Smarter Balanced is even less at \$22.50 per student. The fact of the matter is that in our current economy, many people are choosing to keep their children in public schools, especially for the elementary years. As an independent school system, we need to be able to put our money where our mouth is and show

real data to back up the superior education we are able to provide students. Utilizing Common Core assessments to assess students math skills and effectively guide our teachers in readjusting their teaching so that *all* students are learning is not only smart, but necessary in remaining a viable choice for parents to send their children to our schools.

Con Cross-Examination of Heidi Above(Sarah 1 min):

Heidi, I think that this is an excellent point. It can often be hard to prove to parents why they are spending in excess of \$30,000 per year on schooling, and independent schools do need to be more cognizant of the need to show parents measurable results. They need to know what their children are getting for such a significant investment. But why should we just be looking at test results related to the common core? The College and Work Readiness Assessment exam has found great traction within independent schools, and gets at some of the same issues that the common core is hoping to address: real world readiness. Dr. Tony Wagner says that the CWRA is the only test that really measures how successful students will be in college. Again, I'm not sure why the common core would be any more useful in making students ready for the real world. Yang Zhao sums it up best: "...the Common Core, by forcing children to master the same curriculum, essentially discriminates against talents that are not consistent with their prescribed knowledge and skills. Students who are otherwise talented but do not do well in these chosen subjects are often sent to spend more time on the core subjects, retained for another grade, and deprived of the opportunity to develop their talents in other ways." (Five Questions to Ask about the Common Core)

CON Speech Assessments, 1st Point (Jonathan 2 min):

As you mentioned last week, Heidi and Rob, forcing a student to demonstrate, and judging her on her ability to demonstrate, a certain skill set through a standardized assessment makes the learning process canned and inorganic, removing some of the "spark" that, when generated, could lead to significant academic and intellectual gains. Independent Prep must reject the Common Core because we want to push or support each of our students in his or her progress without mandating that skills and knowledge *must* absolutely be demonstrated on demand through a given assessment. We trust our students and teachers to reach the necessary destination in a more productive and beneficial way.

As Bassett (2004) says, "independent schools believe...that standardized testing should be descriptive and diagnostic...rather than punitive...and predictive." As he notes, such a move to standardized testing does not lead to inspired teaching and learning but rather "pedestrian teaching, dull curricula,...and bored and anxious students." Furthermore, Wilkinson & Pickett (2010) note that educational achievement can often be hindered by social and economic problems, and independent schools are better suited to address and respond to every student's context instead of a hyper-focus on content and skills without regard to the person. Essentially, the Common Core would make independent schools less responsive to their students and less able to address a particular student's needs. Independent Prep must ensure that we promote lifelong learning and superior habits of mind, and these objectives cannot be ensured by privileging Common Core standards. Oh, there I go. Once again, I apologize -- was there something you wanted to say?

Pro Cross-Examination on Assessment (Rob 1 min):

Oh, thanks Jonathan. If you are sure you are finished? Well, I was just thinking about a document Sarah sent me a few weeks ago from the Center for Technology Innovation at Brookings, "In Defense of Common Core Standards" by Joshua Bleiberg and Darrell West. The authors point to one key advantage to the assessments tied to Common Core: computer based tests can be made adaptive. Such an assessment allows for all of the benefits of standardization which Heidi so clearly elucidated, but also addresses your rightful concern about addressing individual students with our assessments. Further, the authors demonstrate that standards aim to "establish an architecture to assess educational outcomes that provides information to teachers, policy makers, and parents." In essence, standardized math assessments with the Common Core will actually augment our ability to personalize the academic experience at Independent Prep. Standardized assessment data of students' mathematical development is an essential tool in crafting curricula that meet the needs of students at all levels of mathematical ability.

Third Main Point and Summation (4 minutes) 21st century vs.

routinization?

Pro Speech, 21st C. & Routinization, & SUMMATION (Rob 2 min):

I must say, I am really surprised at how this conversation has gone - one of the main arguments you offered in our last discussion was in connecting CCSS with critical thinking. Believe it or not, I had never actually looked at the Common Core website! To my surprise, the Standards for Mathematical Practice are outlined by the Common Core as developing more than just procedural competence. Adaptive reasoning, strategic competence, conceptual understanding and productive disposition all occupy equal status alongside procedural fluency. These are strands of proficiency in math that align with the National Research Council's report *Adding It Up*. You can imagine my surprise at reading about 21st century skills and habits of mind in conjunction with the Common Core! Here at Independent Prep, we have talked about things like Bloom's Taxonomy or grit, thinking that we were above the prescriptions of standards reform. Lo and behold, the CC Standards for Mathematical Practice specifically call out for higher order thinking and resilience in the mathematics curricula!

In closing, Heidi and I want to thank the two of you for opening our eyes on this issue. Where we previously thought Common Core was a poison to be avoided at all costs, your suggestions at our last meeting led us to reading and research that has caused us to turn 180 degrees. Common Core provides a blueprint of standardization that allows us to be more frank about our instruction, and better understand what we offer in mathematics as a school. Common Core can be a minimum standard against which we check our practice to ensure we are doing the very best for our students. Similarly, our assessments will be stronger by adopting CC. Centralized assessment is a tool that we must use as an independent school in order to evaluate our student's success in mathematics against the national expectations of all students, and to hone our individualized approach to educating each child. Adopting the Common Core will not curtail or limit our identity at Independence Prep, but rather will serve to emphasize the 21st century skills and unique mission that we strive for every day. So thank you again for showing us the light. Heidi and I now both believe strongly that we ought to adopt the Common Core Standards for Mathematics in our independent school.

Con Speech, 21st C. & Routinization, & SUMMATION (Sarah 2 min):

Heidi and Rob, thanks for engaging in this great conversation. I think that it leaves us with a lot to consider. I know that Jonathan and I keep coming back to this comment from Boaler: (Quote)"Any sort of curricular structure is not supportive of understanding or higher-order thinking; it's more supportive of memorization. The boxes of curriculum that support CCSS can leave teachers flat because it doesn't grow organically out of the teachers' design and knowledge, as effective curriculum does." (End Quote) We know from research that students are best served when teachers are working from their base of expertise. This is why we have all chosen to work at independent schools. We believe that our knowledge and approach, and the freedom to use our own judgment in how to apply them is what gives us the opportunity to best serve our students. I think that while it is useful for us to look at Common Core standards, understand them, and implement what we find useful, I think that if we completely become Common Core centered, we will risk coming off "flat" as stated by Boaler.

There is so much working against our students and their study of math. And it is clear from reading every education journal as well as the *New York Times* that this is a national concern for the United States. We need engineers and technology specialists. Standardizing our curriculum does not put our students first, and it creates a quagmire for our faculty. We need to be more focused on continuing to hire the best teachers, and making sure that our students are well served. Being well served means that the students as individuals are having their needs met on an individual basis. I believe that will yield the results that we are ultimately looking for. Thank <u>you</u> for helping us to see what we had so obviously been overlooking.