New York State Senate Standing Committee on Education
The Regents Reform Agenda: 'Assessing' Our Progress
Written Testimony
November 13, 2013

Submitted by Christopher H. Tienken, Ed.D.

Good afternoon Senator Flanagan and ladies and gentlemen of the New York State Senate Standing Committee on Education. I am Dr. Christopher H. Tienken, from Seton Hall University in New Jersey, where I am a professor of education leadership, management, and policy and teach courses at the masters and doctoral levels. I specialize in curriculum and assessment policy and practices. I have been actively researching and writing about the Common Core since 2009. Today I will direct my comments to the Common Core State Standards and challenge, with evidence, some of the claims provided for the need of the Core. Much more information can be found on my website at www.christienken.com.

My work on the Common Core has been widely circulated around the nation, in Europe, and the English speaking countries in the South Pacific. I've held Visiting Scholar status at the Universities of Roma Tre and Catania in Italy where I lecture on curriculum and assessment policy. I am frequent contributor on the Common Core to national journals, newspapers, research conferences, town hall meetings and other forums. My research was recognized by the National Staff Development Council as their Best Research Award recipient and as the recipient of the Truman Kelley Award for Outstanding Scholarship by the International Honor Society for Education, Kappa Delta Pi. I have public school experience as a former Assistant Superintendent for Curriculum and Instruction, a Middle School Principal, Director of Curriculum and Instruction, Elementary School Assistant Principal, and Elementary School Teacher. I also have two young girls who are now experiencing the Common Core in their local public school. I appreciate your interest in the important topic of the Common Core and the standardization of education for our public school students. In my brief comments today I hope to provide useful information regarding four reasons that New York, as well as other states, should step away from the Common Core and restore local decision making of curriculum and assessment.

As we are all aware, the Common Core State Standards (CCSS) initiative continues to move forward. As of October 2013, 45 states and multiple territories made the CCSS the legal law of their land in terms of the mathematics and language arts curricula used in their public schools. Some states, like my home of New Jersey signed on even before the final drafts were released. Yet the evidence presented by the developers and vendors of the Core, the National Governors Association (NGA) and Council of Chief State School Officers (CCSSO), for the need to adopt a common curriculum and the potential efficacy of that curriculum seems lacking compared to the independent reviews and the available research on the topic that suggest the CCSS are misguided.

Logic requires we ask some basic questions like: How can one curriculum in mathematics and language arts prepare all children to attend one of the over 4,400 colleges and universities or pursue the tens of thousands of careers, some of which have not even been invented yet? Of course one curriculum cannot prepare children for all colleges and careers and there are many reasons why. Today I will raise just four issues with the Common Core.

First, the quality of the standards has not been validated empirically and no mechanism has been created to monitor the intended and unintended consequences they will have on the education system and children (Mathis, 2010). In fact, as colleagues and I presented in many articles and speeches on the topic since 2009, the major arguments made by the vendors and marketers of the Core about the need for its adoption collapse under a review of the empirical literature: (a) America‘s children are —lagging behind international peers in terms of academic achievement, and (b) the economic vibrancy and future of the United States relies upon American students outranking their global peers on international tests of academic achievement because of the mythical relationship between ranks on those tests and a country‘s economic competitiveness.

It is important to note that none of the international tests that the vendors of the Core cite, such as PISA and TIMSS, were developed to (a) measure the overall quality of a country’s education system, or (b) predict economic competitiveness. Basing decisions to adopt a standardized curriculum on the results from those tests is scientifically reckless. For example, the Organization of Economic Co-operation and Development (OECD, 2010), the developer of PISA, cautioned policy makers not to put too much credence in the results:

> If a country’s scale scores in reading, scientific or mathematical literacy are significantly higher than those in another country, it cannot automatically be inferred that the schools or particular parts of the education system in the first country are more effective than those in the second. (OECD 2010, p.171)

The OECD acknowledges the important role that the environment in which a child grows up and the experiences he has outside of school contribute to education output and influence the results on the PISA:

> However, one can legitimately conclude that the cumulative impact of learning experiences in the first country, starting in early childhood and up to the age of 15 and embracing experiences both in school and at home, have resulted in higher outcomes in the literacy domains that PISA measures. (OECD 2010, p.171)

The OECD reports a fairly strong correlation of approximately .50, between childhood poverty and PISA scores. In general, the higher the childhood poverty rate, the lower the PISA score. Tirozzi (as cited in Riddle 2010) demonstrated previously with the results from the PISA 2009 tests that when we compare student scores according to similar levels of poverty, the U.S. ranks first in the world on all sections of the PISA. Hardly lagging.

The OECD authors also caution policy makers that alignment between a country's curriculum and the PISA can be another factor in the differences in achievement due to the way that various countries define "age 15" for their testing cohorts. Countries define "15" differently and those variations can result in students being in different grade levels at age 15 during the time of the test and receiving different curricula. Furthermore, the OECD warns that differences in achievement on the PISA could actually decrease or evaporate later in schooling as the differences between countries' curricula decrease and topics converge.

> Depending on countries' policies on school entry, selection and promotion, these students (in the age cohort 15 yrs 3 months to 16 yrs 2 months) may be distributed over a narrower or wider range of grades across different education systems, tracks or streams. It is important to consider these differences when comparing PISA results across countries, as observed differences between students at age 15 may no longer appear as students' educational converge later on. (OECD, 2010, p. 171)

Researchers at the International Association for the Evaluation of Educational Achievement [IEA] who administer the Trends in Mathematics and Science Study, known as TIMSS, provided policy makers a similar warning about curricular misalignment between the TIMSS mathematics test and countries' curricula as a cause for differences in achievement:

> Although the assessments were developed to represent an agreed-upon framework and were intended to have as much in common across countries as possible, it was unavoidable that the match between the TIMSS 2011 assessment (or test) and the mathematics curriculum would not be the same in all countries. (IEA, 2012b, p. 466)
>
> 33% of the questions on the Grade 8 mathematics TIMSS required algebra and functions. Some Grade 8 students in the US and other countries do not learn that content until Grades 9 or 10. (IEA, 2012a, p. 427)

Results from study after study demonstrated that the outcomes from international tests are not good indicators of education quality or student academic achievement. They certainly can't prescribe that children in Oshkosh should be made to master the same exact content at the same level of difficulty, in the same format, on the same day or week as a child in Green Bay throughout their entire K-12 careers. Furthermore, there is no evidence to suggest that removing the majority of curricular decision making away from parents and teachers, and placing it into the hands of corporations and special interests masquerading as non-profits will improve student learning or rankings on international tests (Zhao, 2012b). The vendors of the Core can't even tell us which standards were taken from which countries, and if the sequence they set the standards has any evidence to support it.

But what about the influence of poverty on the TIMSS test results? The secondary TIMSS sample, called the *Benchmarking Participants*, includes results from several

states, including Massachusetts, Florida, and California. I used the TIMSS 2011 scores from Massachusetts (MA) as a proxy for the scores from a less impoverished "U.S." national sample to model lower levels of child poverty on that test and found similar results to those from Tirozzi on the PISA: Low poverty U.S. students top the world (Tienken, 2013b; 2013c).

According to The Annie E. Casey Foundation, the 2011 child poverty rate in MA was 15% whereas the rate for the U.S. was approximately 23%, the second highest in the industrialized world. Although 15% poverty is higher than many countries in the TIMSS sample (e.g. Japan, Finland, Germany, Denmark, Norway) it does provide a method to look at the influence of poverty on TIMSS results and gives insight as to how U.S. students might score if less of them lived in poverty.

Grade 8 students in MA participated in the science and mathematics portions. In science, the MA students achieved a scale score of 567, second only to Singapore at 590 and ahead of such participants as Chinese Taipei, Japan, Hong Kong, Korea, and Finland. A decrease in the poverty rate by 8 percentage points in the U.S. (23% U.S. average—15% MA average) increases the scale score by 41 points and propels the U.S. to 2nd place in the world on TIMSS 2011 Grade 8 Science (Tienken, 2013b).

In mathematics, the MA students achieved a scale score of 561 compared to the U.S. average of 509: a difference of 52 scale score points. The difference propels the U.S. students into 5th place and on par with Japan. Poverty matters in the U.S. in terms of scale scores on the TIMSS and it is poverty that creates a lag, not locally, democratically developed curricula. Clearly the evidence from international testing does not support the need for the Core.

The second issue I would like to raise is that the language arts and mathematics curriculum sequences embedded in the Core Standards are nothing more than rehashed versions of the recommendations from the Committee of Ten in 1893 and the Committee of 15 in 1893; hardly 21st century innovations. The standards do little to promote global literacy through cultural collaboration, strategizing, innovation, and cooperation: skills vitally important not only to "compete" but to synergize globally. The 21st century will be less about direct competition and more about leveraging relationships across the global to innovate and create. The Standards do not stress socially conscious problem-solving or strategizing. They are inert, sterile, globally static, and in the end, call for students to produce a predetermined correct answer. This type of curriculum is in stark contrast to what the United States Council on Competitiveness called for:

> At the beginning of the 21st century, America stands at the dawn of a conceptual economy in which insight, imagination and ingenuity determine competitive advantage and value creation. To succeed in this hyper-competitive, fast-paced global economy, we cannot, nor should we want to, compete on low wages, commodity products, standard services, and routine science and technology development. As other nations build sophisticated technical capabilities, excellence in science and technology alone will not

ensure success. (p. 10)

Furthermore, the results from the *2010 Global Chief Executive Study* conducted by the IBM Corporation made several important recommendations that call into question the use of 19th century curriculum standards to address 21st century issues. After analyzing data from interviews with 1,500 of the worlds CEO's the authors of the report stated that to remain competitive in the global economies CEO's and their employees must:
(a) use creative leadership strategies;
(b) collaborate and cooperate globally amongst themselves and with their customer bases;
(c) differentiate their responses, products, and services to build operating dexterity (p.51); and
(d) be able to use complexity to a strategic advantage.

The vendors of the CCSS have a problem: They have no evidence that demonstrates the validity of the standards as a vehicle to build 21st century skills nor as a means to achieve the things the business leaders say will be needed to operate in a diverse global environment. The CCSS are stuck in a time warp. A curricular time machine, if you will, set to 1895 (Tienken, 2011).

Third, the evidence provided by the vendors of the Core, for the efficacy of the Core, calls into question the quality of the standards. The official website for the CCSS claims to have the best evidence available. The site's authors allege that the standards are evidence-based and lists two homegrown documents to prove it: *Myths vs Facts* (NGA, 2010) and the *Joint International Benchmarking Report* (NGA, 2008). The *Myths* document presents claims that the standards have "made use of a large and growing body of knowledge" (p. 3).

In the scientific world knowledge derives in part from carefully controlled and independently conducted scientific experiments and observations. Therefore, one would expect to find references to high quality empirical research to support the standards. When I reviewed that "large and growing body of knowledge" offered by the NGA, I found that it was not large, and in fact built mostly on one report, *Benchmarking for Success*, created by the NGA and the CCSSO, the same groups that created these standards; Not exactly the independent research I had hoped to find.

The *Benchmarking* report contains over 135 endnotes, some of which are repetitive references. Only four of the cited pieces of evidence could be considered empirical studies related directly to the topic of national standards and student achievement and the results of those four studies do not confirm that the U.S. needs national standards, one path to college and careers, or that the intended results from such a centralized system will be demonstrably better than a locally controlled system. The remaining citations from the report were newspaper stories, armchair magazine articles, op-ed pieces, book chapters, notes from telephone interviews, and several tangential studies (Tienken, 2011).

Many of the citations were linked to a small group of standardization advocates and did not represent the larger body of classical or recent empirical thought on the topic. The *Joint International Benchmarking Report*, the primary source of evidence provided by the NGA and CCSSO, draws most of its conclusions from one report, *The Role of Cognitive Skills in Economic Development* (Hanushek & Woessmann, 2008). The use of that report is troubling because it has several fatal flaws in its logic and methodology.

My fourth and final point is that the claim that the CCSS are necessary due to U.S. students causing a loss of economic competitive advantage is patently false. The U.S. is the world leader in creativity and innovation. The idea that the CCSS will lead to more creativity and innovation is patently false. Standardizing creativity is an oxymoron. By its nature, creativity is developed over a long period of time, and the outcomes of creativity are brought about by diverse and completely unstandardized experiences. By definition, creative outputs are unique. In many ways, creativity can be partly in the eye of the beholder (Zhao, 2012b). That is one reason it is difficult to teach creativity aimed at a standard outcome. Likewise, a country cannot standardize itself into producing more creative citizens. Standardized is inherently uncreative. However, opportunities to engage in experiences and use behaviors and skills that relate to creativity can be offered to students through problem-based, project-based, and activity-based curricula developed locally. These types of curricula, by design, require students to develop nonstandard solutions to unstructured problems. Visualize the opposite of the one-size-fits-all monitoring system set up through the Common Core State Standards and national standardized testing and you would be moving your thinking in the right direction (Tienken, 2013a; 2013b).

We need to jettison the idea that all students must know the same set of narrow content and skills, at the same level of difficulty, and demonstrate that knowledge in exactly the same manner beyond basic reading, writing and arithmetic skills commonly used in Grades 6 or 7. Only then can we embrace the idea of individual interests and passion, and begin to imagine a creative curriculum with multiple pathways through high school and to college and careers (Zhao, 2012a).

There exist multiple indices and indicators of creativity and the output of our creative, non-standardized efforts. One indicator is the Global Creativity Index, produced by the Martin Prosperity Institute (2011). So how do countries rank in terms of global creativity? The United States ranked second behind Sweden, and ahead of countries like Finland, Denmark, Australia, Norway, Japan, Germany, and Singapore. China ranked 58th. In economic terms, what can creativity look like? One outgrowth can be entrepreneurship.

According to the Global Entrepreneurship and Development Index (Acs & Szerb, 2010), the United States ranked third on the overall Global Entrepreneurship Index, behind Denmark and Canada and ahead of countries like Japan, China, Singapore,

and Finland. The United States ranked sixth on the index of Entrepreneurial Attitudes, behind countries such as New Zealand, Canada, Australia, and Sweden. The United States ranked ahead of Finland, Norway, Germany, Japan, and Singapore. China ranked in the lower third of the world. The United States ranked first on the Entrepreneurial Aspirations Index and sixth in the world on turning those aspirations into reality (i.e., Entrepreneurial Activities Index), once again ahead of Japan, Germany, Singapore, and Finland. Denmark was first and China was near the bottom of the world rankings.

Innovation is also one possible outcome of creativity. The Global Innovation Index ranked the United States fifth behind Switzerland, Sweden, United Kingdom, and Netherlands (Dutta & Lanvin, 2013). China ranked 35th. Some outcomes of innovation include utility patents and Nobel Prizes. According to the U.S. Patent and Trademark Office (2012), the United States was granted 121,026 utility patents in 2012. Utility patents are "issued for the invention of a new and useful process, machine, manufacture, or composition of matter, or a new and useful improvement thereof" (U.S. Patent and Trademark Office, 2013). The 195 countries of the world outside the United States combined for 132,129 utility patents, only 11,103 more than the United States alone; Japan had the second most patents approved in 2012 with 50,677, almost 40% of the rest of the world's output.

Nobel Prizes also can be used as a related indicator of creativity and innovation. Since 1901, the Nobel Committee has issued 915 prizes in the areas of Chemistry, Economics, Literature, Medicine, Peace, and Physics. Nobel Laureates born in the United States represented the most of any country, with 262. The next most awarded country of origin, with 82, is the United Kingdom, followed by what is now Germany with 70. Laureates born in India have been awarded 9 prizes and China 11. In the specific area of Nobel Prizes in the Sciences, the United States ranked first again with 191 U.S.-born Laureates, followed by the United Kingdom with 66 and Germany with 60 (Nobelprize.org, 2013).

The number of scientific papers published is another leading indicator of creativity, albeit scientific creativity, and innovation. U.S. scientists, ranking first in the world, published 3,049,662 scientific papers in 2011 (Thomson Reuters, 2011). Chinese scientists published 836,255 papers, and scientists from Germany and Japan published approximately 784,316 and 771,548 papers, respectively. Keep in mind that China has a population almost 5x greater than that of the U.S. yet the U.S. put out almost 4x as many scientific papers. Publication numbers alone, however, do not give readers insight to the quality of those papers (Tienken, 2013a).

One hallmark of quality for scientific publications is how many times they are cited. Citations provide an indicator of the level of acceptance for scientific ideas and also of how well those ideas have been vetted and determined to be worth pursuing. Papers from U.S. scientists garnered 48,862,100 citations. The country with the next closest number of citations was Germany with 10,518,133. Papers from Chinese scientists gathered 5,191,358 citations (Tienken, 2013a).

These accomplishments and numerous others, too many to list, were not the result of the standardized system brought on by No Child Left Behind and now Common Core and national testing. These accomplishments were a result of the non-standardized, locally controlled, public education system that existed before 2002. Do the state and federal governments have a role they can play, yes, but that role should not be that of a centralizer, homogenizer, and standardizer at the classroom level that extinguishes creativity and innovation in favor of a system built on imitation and regurgitation.

I appreciate your time and commitment on this issue. Please feel free to contact me at anytime if I can be of further assistance. A listing of works related to the citations and works consulted for this testimony is provided at the end of this testimony.

Thank you,

Christopher H. Tienken, Ed.D.
www.christienken.com
Christopher.tienken@shu.edu

Note: Portions of this testimony were influenced by or adapted from some of my previous works and presentations to other state committees, the most influential of which were *The Common Core State Standards: An Example of Data-less Decision Making* and *The School Reform Landscape: Fraud, Myth, and Lies,* both of which can be found at www.christienken.com.

References

Acs, Z. J., & Szerb, L. (2010, June). *The global entrepreneurship and development index (GEDI)*. Paper presented at the DRUID summer conference, London. Retrieved from http://www2.druid.dk/conferences/viewpaper.php?id=502261&cf=43

Dutta, S., & Lanvin, B. (Eds.). (2013). *Global innovation index 2013: The local dynamics of innovation* (6th ed.). Geneva, Switzerland: Cornell University, INSEAD, and World Intellectual Property Organization.

Hanushek, E. A., & Woessmann, L. (2008). The role of cognitive skills in economic development. *Journal of Economic Literature, 46(*3), 607-668.

International Association for the Evaluation of Educational Achievement [IEA]. (2012). *TIMSS 2011: International Results in Mathematics*. *Appendix B*. Author. Retrieved from http://timssandpirls.bc.edu/timss2011/international-results-mathematics.html

International Association for the Evaluation of Educational Achievement [IEA]. (2012). *TIMSS 2011: International Results in Mathematics*. *Appendix F*. Author. Retrieved from http://timssandpirls.bc.edu/timss2011/international-results-mathematics.html

Mathis, W. J. (2010). *The "Common Core" standards initiative: An effective reform tool.* Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved from http://epicpolicy.org/publication/common-core-standard

Martin Prosperity Institute. (2011). *Creativity and prosperity: The 2010 global creativity index.* Toronto, ON, CAN: MPI. Retrieved from http://martinprosperity.org/media/GCI Report Sep 2011.pdf

Nobelprize.org. (2013). Nobel Prize API. Retrieved from http://console.apihq.com/nobel-prize-api

OECD. (2010). *PISA 2009. What students know and can do. Student performance in reading, mathematics, and science*. Author. Retrieved from http://www.oecd.org/pisa/pisaproducts/pisa2009/pisa2009keyfindings.htm

Riddle, M. (2010, December 15). PISA: It's poverty not stupid. *The Principal Difference*. http://nasspblogs.org/principaldifference/2010/12/pisa_its_poverty_not_stupid_1.html

Tienken, C.H. (2013a). International comparisons of creativity and innovation. *Kappa Delta Pi Record, 49*, 153-155.

Tienken, C.H. (2013b). Conclusions from TIMSS and PISA testing. *Kappa Delta Pi Record,* 49(2), 56-58.

Tienken, C.H. (2013c). TIMSS implications for U.S. education, *AASA Journal of Scholarship and Practice*, 9(4), 3-9.

Tienken, C.H. & Orlich, D.C. (2013). Translating the Common Core State Standards. *AASA Journal of Scholarship and Practice*, 10(1), 3-6.

Tienken, C.H. (2011). The Common Core State Standards: An example of data-less decision making. *AASA Journal of Scholarship and Practice, 7*(4), 3-18.

U.S. Patent and Trademark Office. (2012): *Patents by country, state, and year: Utility patents*. Alexandria, VA: Author. Retrieved from http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_utl.htm

U.S. Patent and Trademark Office. (2013, March). *Types of patents*. Alexandria, VA: Electronic Information Products Division. Retrieved from http://www.uspto.gov/web/offices/ac/ido/oeip/taf/patdesc.htm

World Intellectual Property Organization. (2012). *World Intellectual Property Indicators – 2012 Edition.* Retrieved from http://www.wipo.int/ipstats/en/wipi/index.html

Zhao, Y. (2012a). *World class learners. Educating creative and entrepreneurial students.* NY: New York, Corwin Press.

Zhao, Y. (2012b, December 11). *Numbers can lie: What PISA and TIMSS truly tell us, if anything?* Retrieved from http://zhaolearning.com/2012/12/11/numbers-can-lie-what-timss-and-pisa-truly-tell-us-if-anything/