

The problems with Common Core

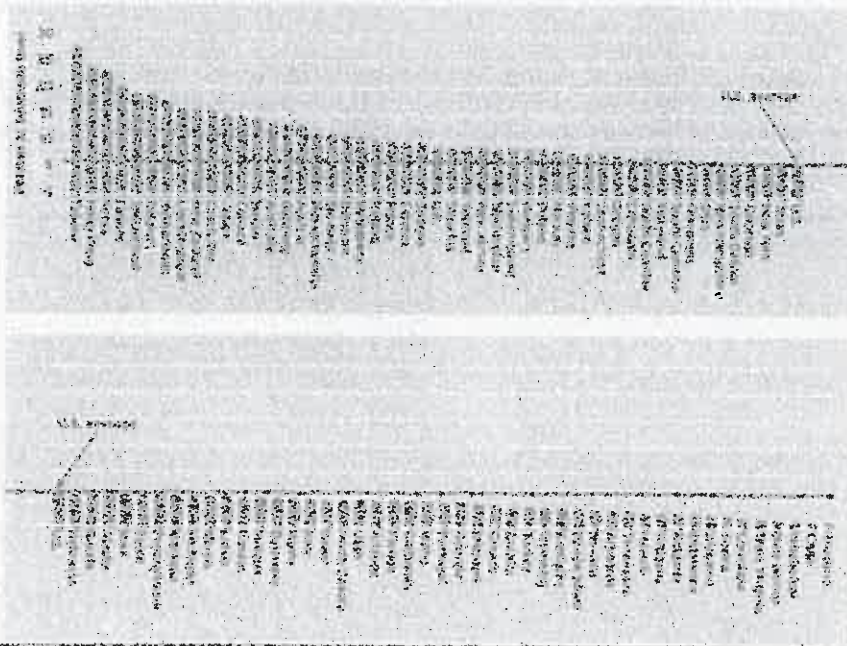
R. JAMES MILGRAM

I am a retired Professor of Mathematics at Stanford University, and am generally regarded as one of the leading experts on K-12 mathematics curricula in the country.

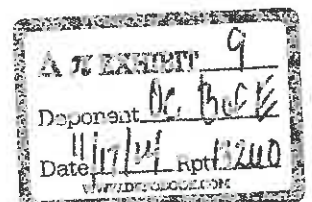
This is an area of huge concern today in the U.S. since our very economic future crucially depends on the quality of the mathematics education that we provide to our children. Moreover, it is almost universally agreed that today we do not match up with the results for the highest achieving countries, and our expectations are far behind what is expected internationally.

To see this we only need look at our recent performances on the various international mathematics exams – the TIMSS, and PISA. On both there is a consistent drop from fourth grade where we score close to the median, to eighth grade where we score below the median. (For the 2006 PISA exam, for example, “the percentage of ... students in the U.S. Class of 2009 who were highly accomplished is well below that of most countries with which the U.S. generally compares itself.¹”) Here, for example are the scores on the 2006 PISA exam:

Class of 2009: Percentage of students at advanced level in math in U.S. States and countries participating in PISA 2006. (page 1)



¹ Eric Hanushek, Paul Peterson, L Woessmann, U.S. Math Performance in Global Perspective (PEPG Report 10-19, November 2010)



Finally, our high school advanced TIMSS scores were *at the absolute bottom among the participating countries*. [See Appendix F for our scores on the Advanced TIMSS exam.]

I and 3 of my colleagues at Stanford wrote the 1998 California Mathematics Standards that were in place for the 12 years before Common Core came along in 2010.

1. In the years between 1998 and 2010 I led or was member of the teams that developed the Mathematics Standards in six other states including MA, FL and TX, as well as the National Council of Teachers of Mathematics' Curriculum Focal Points.
2. I was appointed by the President and confirmed by the Senate to the National Board for Education Science that oversee's all education research at the U.S. Department of Education, and
3. I was one of the two senior authors of one of the best selling middle school mathematics programs in the country.
4. More recently, I became the only research mathematician to ever serve on the NASA Advisory Board.

Perhaps one of the highest honors in my work on K-12 education was my appointment to the Validation Committee (VC) for the Common Core Standards in 2009. We were tasked with overseeing their development, evaluating the research underlying each standard, and, if necessary, revising those parts that were judged not to meet our expectations. Each state was allowed to nominate only one candidate for the VC, and I was California's nominee.

It turned out that I was the only member of the VC whose highest degree was not an Ed.D, from a school of education but a subject matter Ph.D. (in mathematics).

Moreover, I was one of the only two content area experts on the VC, and neither one of us was able to sign off on the Common Core Standards.

The reason I am here today is because I am concerned about the direction our nation is taking under Common Core and feel it is extremely important that the details of the development underlying this initiative be made available to the public and their serious deficiencies be publicly discussed.

By law, California requires current and confirmed research to justify its K-12 standards. Our most important focus in the remainder of this note is on the research (or rather lack of it) underlying the Common Core Mathematics Standards.

The problems with the research are pervasive, but particularly acute when it comes to the level of these standards and their preparation for college and career readiness. Moreover, in all the high school material, choices were made that effectively dumbed down the only courses covered – Algebra I, Algebra II, and Geometry – to the point where they barely provide students with the background to successfully enter a community or for profit college.

We also point out that the actual authors of the document were well aware of, and very disturbed by these shortcomings. Finally, we point out that without a complete revamping of our schools of education these issues will not go away, and our outcomes will never again be comparable to those of the high achieving countries.

- (1) Common Core math standards are remarkably similar to the 1992 California standards that so weakened our math outcomes
- (2) Indeed, 20 years ago I was hearing exactly the same words that I'm hearing now,
 - i (rigorous, problem solving, internationally benchmarked: NOT TRUE THEN, NOT TRUE NOW).
 - ii Indeed it turns out that when Education Professors in the schools of education use the term *rigorous* they actually mean "creative" in the sense of putting something down on paper or talking about something that students haven't been told about in class.
 - iii This is virtually the exact opposite of what rigorous means in common language – (careful, precise and accurate). This is just one of many cases where the same word has opposite meanings in Educationese and ordinary English. [For details see Appendix E.]
- (3) Even the same people are back and are pushing the same programs they pushed 20 years ago that so harmed California's kids.²

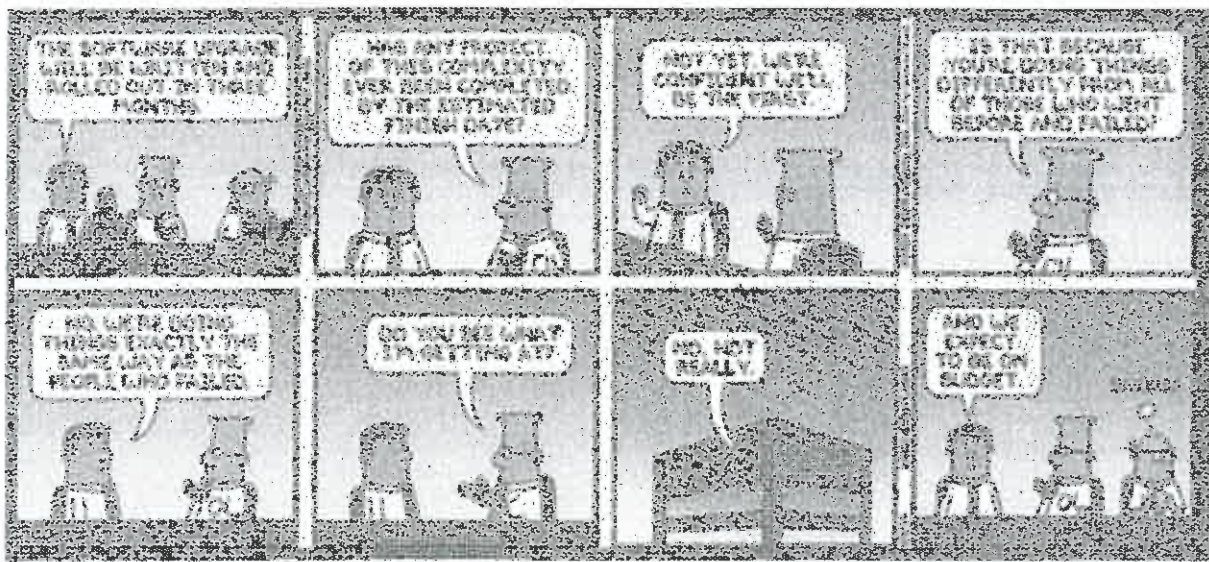
² Bill Honig and Mike Krist were respectively, the State Superintendent of Edu-

i 20 years ago, the magic words were "Goals 2000," with its announced declaration that our outcomes would be the best in the world by the turn of the century. The program provided monies to states and school districts "to fix all their K-12 problems."

ii What happened? Our outcomes became even worse.

iii Today, it is "Race to the Top" with its billions of dollars that provide monies to states and school districts to fix all their K-12 problems. What do you suppose will be the likely outcome?

It seems that we have forgotten how to recall the past, and have entirely lost sight of the fact that "those who cannot remember the past are condemned to repeat it."



(4) The only quality control for the Common Core Standards rested in the hands of the members of the VC: but, as is probably usual in K-12 education circles, nothing is quite what one would expect. It will turn out that it is not an accident that the two of us did not sign off on Core Standards.

i The first charge to the Validation Committee was to validate the sufficiency of the evidence supporting each college - and career-readiness standard.

cation and the President of the State Board of Education in the early 1980's when we started on the road to the 1992 California Standards. Kirst holds the same post now. Bill Honig was not in a position to reprise his role as State Superintendent of Education, but today holds an almost equally important position in Sacramento.

- ii The second charge to the Validation Committee was to “Add any standard that is not now included in the common core state standards that they feel should be included and provide the following evidence to support its inclusion: (a) that the standard is essential to college and career success and (b) evidence that the standard is internationally comparable.”

Evidently, Common Core was to be as good as the Best International expectations.

- (5) It was for College and Career readiness, and the standards were to match up with the best of what is done internationally.

CLEARLY, the duties of the Validation Committee were to entirely oversee the development of the Common Core Standards.

NOT TRUE. NOT TRUE AT ALL.

In fact, this was never the intent of the real but hidden leaders of the Common Core project. Actually, there was to be no quality control at all.

Indeed, the first draft of the Common Core math standards stopped with ALGEBRA I. No geometry, no Algebra II. Nothing further.

- For what it’s worth, the best available data from the U.S. department of education shows that students with just an Algebra I background have less than a 7% chance of ever obtaining a bachelor’s degree in any subject.
 - Moreover, the best available research shows that the methods required in the Mathematical Practices section of Common Core (which are generally regarded as the key material in the document) are entirely unsound, and do not accord with either the way humans learn, or how their brains process data [See Appendix B for a key reference]
- (6) But the intent and promise of the Common Core project was to prepare students for both the work force and for college.

Just Algebra I doesn’t begin to do this.

Indeed, to my knowledge, no public four year college or university in this country would even admit a student with just this preparation.

As a consequence, I quickly met with the leaders of the writing team for Core Standards, Prof. William McCallum and Prof. Jason Zimba. (There was a third lead writer, Mr. Phil Daro. But his 4 year degree was in English, and his only graduate work was in a School of Education. So he was not included in any discussions that actually involved math content.)

I demanded that they put in much more math.

(7) But, though they completely understood my concerns and almost certainly agreed with them, McCallum and Zimba couldn't do anything. It appeared that I had to convince ACHIEVE that one needs more than Algebra I to be "college and career ready," not the writers – the first indication that things were not as they had seemed.

(8) So I met with ACHIEVE demanding much more math

i I showed them data, including the report of the National Math Panel, and what is done in the high achieving countries.

ii Finally, they allowed the writers to include some geometry and the material for a weak Algebra II course, but that was it! There would be nothing more advanced than this in Common Core.

(9) At that point an extraordinary thing happened.

i Almost immediately afterward the members of the Validation Committee received a note indicating that we no longer had any authority to make or even request changes in the standards.

ii Instead we were asked to sign a letter asserting that the standards were excellent.

Since the standards were far from being either "excellent" or even benchmarked to the level of typical international expectations, I refused to sign the letter. [See Appendix A for details]

What was the Attitude of the Lead Writers: William McCallum and Jason Zimba?

It seems that they felt exactly the same way I did at that point: that the standards were woefully weak.

- Bill McCallum, Jan. 2010:
 - “It’s not what we aspire to for our children. It’s not what we as a nation want to set as a final deliverable. I completely agree with that, and we should go beyond that.”
- Jason Zimba, March 2010, testimony to the MA State Board of Elementary and Secondary Education:
 - The standards are “for the colleges most kids go to, but not for the colleges most parents aspire to.”
 - They are “not for STEM” and “not for selective colleges.”
- Zimba also pointed out that the meaning of “College Ready” in Common Core’s Math Standards, and hence in Educationese is
 - “a student who passed Algebra II.”

Zimba’s exact comment in his initial presentation was: “We have agreement to the extent that its a fuzzy definition, that the minimally college-ready student is a student who passed Algebra II.”

Later in his testimony he was asked to clarify what he meant. Zimba stated: “In my original remarks, I didn’t make that point strongly enough or signal the agreement that we have on this – the definition of college readiness. I think it’s a fair critique that it’s a minimal definition of college readiness.”

He was then asked to clarify what this means for international competitiveness and preparation for STEM areas. Zimba responded “Not only not for STEM, its also not for selective colleges. For example, for UC Berkeley, whether you are going to be an engineer or not, you’d better have pre-calculus to get into UC Berkeley.”

Then a board member summarized her objections to this minimal-

ist definition by explaining that a set of standards labeled as making students college-ready when the readiness level applies only to a certain type of college and to a low level of mathematical expertise would not command much international respect in areas like technology, economics, and business. At this point Zimba appeared to agree.

Actually, the National Center for Educational Statistics – A major directorate within the U.S. Department of Education – has an enormous amount of data relating to college readiness and the highest math course successfully taken in high school. They show that 20 years ago only 39% of college students whose highest course was Algebra II ever obtained a bachelor's degree, and the best available estimates currently are that only 31% to 33% would be expected to finish a bachelor's degree today.

Table 5. Bachelor's degree attainment rate by highest level of mathematics reached in high school by 1982 and 1992 12th-graders

<u>Level of math</u>	<u>Class of 1982</u>		<u>Class of 1992</u>	
	<u>Percentage reaching this level of math</u>	<u>Earned bachelor's</u>	<u>Percentage reaching this level of math</u>	<u>Earned bachelor's</u>
Calculus	5.2	82.1	9.7	83.3
Pre-calculus	4.5	75.9	10.3	74.6
Trigonometry	9.3	64.7	12.1	60.0
Algebra 2	24.6	33.0	30.0	33.0
Geometry	16.3	31.0	14.2	16.7
Algebra 1	21.8	13.4	16.5	7.0
Pre-algebra	18.0	5.4	6.7	3.9

SOURCES: National Center for Education Statistics: High School & Beyond/Sophomore Cohort (NCES 2000-194) and NELS:88/2000 Postsecondary Transcript Files (NCES 2003-403 and Supplement).

Moreover, when a student with only a background in Algebra II comes to a college or university, his or her first math course will, almost certainly not be calculus or above. However, recent data on college course taking shows that over 50% of first year college students who took at least one mathematics course started with calculus or an even more advanced course, while only 9% took pre-calculus, and almost all the rest took a course that was almost certainly remedial. [See the table in Appendix C]

So it is evident that successfully completing Algebra 2 is not a reasonable definition of being college ready. Moreover, the Algebra 2 that the

writing team was allowed to put together is very weak, missing any number of key topics – especially those that are crucial for success in STEM areas. [See the details in Appendix D]

But as bad (and disturbing) as the previous discussion shows the issues with Common Core are, we must not lose sight of the key point that Common Core has been sold by its creators as the country's best hope for strengthening the STEM (Science, Technology, Engineering, Mathematics) pipeline. So we also need to see what the probabilities are for a student entering college, wanting to major in a STEM area, but with only a Common Core background to ever obtain a STEM degree.

THE ANSWER IS ASTOUNDING. Only 2% of such students will succeed. This is not a misprint! 2% or one in 50 is correct. This next table is taken from a recent report by the NCES:

National Center for Education Statistics

Table 7.
HIGHEST MATH COURSE IN FIRST YEAR: Percentage distribution of the highest level of mathematics in which 2001–04 beginning bachelor's and associate's degree students earned credits, by STEM entrance and persistence through 2006

STEM entrance and persistence through 2006	Beginning bachelor's degree students				Beginning associate's degree students			
	No math	Four-semester-level math only ¹	Introductory college-level math ²	Calculus and advanced math	No math	Four-semester-level math only ¹	Introductory college-level math ²	Calculus and advanced math
Total	48.1	5.7	30.1	16.2	49.3	21.3	22.9	5.4
Students who entered STEM fields in first year								
STEM majors ³	14.3	8.3	24.0	33.4	44.2	21.3	25.4	8.2
Students who left PCIE without a degree/diploma	35.9	12.1	23.2	27.8	59.3	16.2	28.9	6.3
Students who switched major to a non-STEM field	23.7	7.0	27.1	34.2	39.3	27.1	28.9	7.2
STEM persistence completers	14.3	8.3	24.0	33.4	44.2	21.3	25.4	8.2
Students who completed a STEM degree/diploma	17.7	10.7	15.9	48.2	19.3	22.1	44.8	17.1
Students who entered STEM fields after first year								
STEM majors ³	38.4	10.7	30.1	20.8	49.5	22.6	30.9	3.3
Students who left PCIE without a degree/diploma	31.3	11.4	28.1	29.2	49.9	27.5	10.7	2
Students who switched major to a non-STEM field	37.3	10.3	26.4	25.7	39.6	16.3	48.3	3
STEM persistence completers	27.1	6.5	20.0	47.0	37.3	17.8	37.4	17.3
Students who completed a STEM degree/diploma	24.3	4.3	17.4	54.1	12.3	13.3	37.0	31.3

See notes at end of table.

Some details on the failure to properly research the standards. Besides the issues of pacing and content that I have already discussed, there are a large number of explicit issues with the many standards present in Common Core that cannot be justified by research. Here I will only discuss two of them.

The first is the structure of the Geometry course. It has already been pointed out that the content that is present in the standards is minimal. But a major part of standards here is details on *how the course should be taught*. Instead of the traditional axiomatic approach that has been in place for some 2000 years, based on Euclid's axioms

and postulates, this course is focused on using Euclidean transformations (slides, reflections and rotations) to prove the basic theorems.

This method has only been tried on a large scale once. It was in the old USSR, and it was restricted to the geometry course for the most advanced of their students. But even so, it was so poorly received that it was rapidly abandoned. This is an example where the Validation Committee should have had the authority to intervene and revise, but it was first seen in the draft after the powers that be had changed to rules so that we could not intervene. Moreover, this approach has already been entirely misunderstood and misapplied by our high school teachers to create a Euclidean geometry course without any proofs at all!

Additionally, there are similar issues with the high school Algebra courses. The traditional courses would introduce a topic such as classification of conic sections and then show their applications in many diverse areas such as physics and engineering. But the Common Core courses have no standards of this type, and focus almost entirely on purely formal properties. Again, this approach has been tried in a number of states over the last 20 or more years, and there is absolutely no evidence that it has ever resulted in improved student outcomes.

Of course, it would be grossly unfair to blame our teachers for this terrible mess. The real issue is with the Schools of Education themselves. There seems to be very little doubt that they have outlived their utility.

Final remarks

The situation we are actually facing has put our entire economy at risk and is best summed up by a recent quote from a noted Professor of Engineering who has become very concerned about this issue.

“Without question, the fault is with the faculties of the schools of education who train these teachers rather than the teachers themselves.

“Without a shred of evidence, the methods they train these teachers in these schools persist in pushing the worst possible teaching methodologies, and denigrating basic skills.”

(Barbara Oakley, Prof. Of engineering Oakland University, Michigan)

Summary:

“Anyone can write ‘standards.’ But California, by law, requires current and confirmed research.” Voila! – none here!

- “Not even validation by the lone mathematician on the VC– no pilots, no research, no vetting.
- “Let alone anything resembling current and confirmed research.”

Veronica Norris, JD. RN.

Appendix A: THE CHANGE TO THE CHARGE OF THE VALIDATION COMMITTEE

The original members of Validation and the original charge.
(Sept. 2009)

WASHINGTON (09/16/2009) The National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) today released the names of the members of the Validation Committee for the Common Core State Standards Initiative. This committee will immediately be tasked with reviewing and verifying the standards development process and the resulting evidence-based college- and career-readiness standards. The standards are intended to be research and evidence-based, aligned with college and workforce training program expectations, reflective of rigorous content and skills, and internationally benchmarked.

For the college- and career-readiness standards, the Validation Committee will:

- Review the process used to develop the college- and career-readiness standards and recommend improvements in that process. These recommendations will be used to inform the K-12 development process.
- Validate the sufficiency of the evidence supporting each college- and career-readiness standard. Each member is asked to determine whether each standard has sufficient evidence to warrant its inclusion.
- Add any standard that is not now included in the common core state standards that they feel should be included and provide the following evidence to support its inclusion:
 - 1) evidence that the standard is essential to college and career success; and
 - 2) evidence that the standard is internationally comparable.

Members of the validation committee were nominated by states and national organizations, with a group of six governors and six chief state school officers in the participating states selecting the final committee

membership. The six governors were Colorado Gov. Bill Ritter; Connecticut Gov. M. Jodi Rell; Delaware Gov. Jack Markell; Georgia Gov. Sonny Perdue; Vermont Gov. Jim Douglas; and West Virginia Gov. Joe Manchin. The chief state school officers were: Maine Chief and CCSSO Board President Susan Gendron; Michigan Chief Michael Flanagan; Pennsylvania Chief Gerald Zahorchak; South Carolina Chief Jim Rex; and West Virginia Chief Steve Paine. After the college- and career-readiness standards and process have been validated by the committee, the NGA Center and CCSSO will begin the process of developing the K-12 standards.

The members of the Validation Committee are:

- **Bryan Albrecht**, President, Gateway Technical College, Kenosha, Wisconsin
- **Arthur Applebee**, Distinguished Professor, Center on English Learning & Achievement, School of Education, University at Albany, SUNY
- **Sarah Baird**, 2009 Arizona Teacher of the Year, K-5 Math Coach, Kyrene School District
- **Jere Confrey**, Joseph D. Moore Distinguished University Professor, William and Ida Friday Institute for Educational Innovation, College of Education, North Carolina State University
- **David T. Conley**, Professor, College of Education, University of Oregon CEO, Educational Policy Improvement Center (Co-Chair)
- **Linda Darling-Hammond**, Charles E. Ducommun Professor of Education, Stanford University
- **Alfinio Flores**, Hollowell Professor of Mathematics Education, University of Delaware
- **Brian Gong**, Executive Director, Center for Assessment (Co-Chair)
- **Kenji Hakuta**, Lee L. Jacks Professor of Education, Stanford University
- **Kristin Buckstad Hamilton**, Teacher, Battlefield Senior High School, NEA
- **Feng-Jui Hsieh**, Associate Professor of the Mathematics Department, National Taiwan Normal University
- **Mary Ann Jordan**, Teacher, New York City Dept of Education, AFT
- **Jeremy Kilpatrick**, Regents Professor of Mathematics Education, University of Georgia
- **Dr. Jill Martin**, Principal, Pine Creek High School
- **Barry McGaw**, Professor and Director of Melbourne Education

Research Institute, University of Melbourne; Director for Education, OECD

- James Milgram, Professor Emeritus, Stanford University
- David Pearson, Professor and Dean, Graduate School of Education, University of California, Berkeley
- Steve Pophal, Principal, DC Everest Junior High
- Stanley Rabinowitz, Senior Program Director, Assessment and Standards Development Services, WestEd
- Lauren Resnick, Distinguished University Professor, Psychology and Cognitive Science, Learning Sciences and Education Policy, University of Pittsburgh
- Andreas Schleicher, Head, Indicators and Analysis Division of the OECD Directorate for Education
- William Schmidt, University Distinguished Professor, Michigan State University
- Catherine Snow, Henry Lee Shattuck Professor of Education, Harvard Graduate School of Education
- Christopher Steinhauser, Superintendent of Schools, Long Beach Unified School District
- Sandra Stotsky, Professor of Education Reform, 21st Century Chair in Teacher Quality, University of Arkansas
- Dorothy Strickland, Samuel DeWitt Proctor Professor of Ed., Emerita, Distinguished Research Fellow, National Institute for Early Education Research, Rutgers, The State University of NJ
- Martha Thurlow, Director, National Center on Educational Outcomes, University of Minnesota
- Norman Webb, Senior Research Scientist, Emeritus, Wisconsin Center for Education Research, University of Wisconsin
- Dylan William, Deputy Director, Institute of Education, University of London

The revised charge.

Charge to the Validation Committee (November, 2009)

CCSSO and NGA created the Validation Committee to provide an independent expert validation of the common core standards from recognized experts and practitioners in the field. The role of the Validation Committee is to:

- Ensure the principles that led to the development of the standards were adhered to in the development process, namely that the standards are:
 - Evident of the knowledge and skills students need to be college and career ready,
 - At a proper level of clarity and specificity,
 - Accompanied by evidence that they are comparable with other leading international countries and states in the expectations outlined for students, and
 - Informed by evidence and/or research.
- Offer feedback and written comments on the draft standards that will be provided to the standards work teams for consideration in subsequent drafts of the College and Career Readiness and K-12 standards; and
- Provide a review and endorsement of the standards to be released as a final report of the committee. The Validation Committee is responsible for ensuring that the standards meet the requirements as outlined by CCSSO and NGA. *It is not the role of the Validation Committee to edit or rewrite the standards documents.* That continues to be the role of the standards work teams.

The Validation Committee will operate under a set of Operating Principles and be led by co-chairs who will facilitate discussion, monitor progress towards stated objectives of the meetings, and lead the group to a final decision and report on the common core standards.

CCSSO and NGA will ensure that all voices are heard including minority opinions – and included in the final report of the Validation Committee that accompanies the release of the K-12 and College- and Career- Readiness Standards.

CCSSO and NGA have been charged by their respective memberships to deliver the K-12 and College- and Career- Readiness Standards and on their behalf will be the sole determinates of the final release of the document.

The revised letter. (Feb. 2010)

The Common Core State Standards Initiative is a significant and historic opportunity for states collectively to accelerate and drive education reform toward the ultimate goal of all children graduating from high school ready for college, career pathways, and success in a global economy. The initiative builds upon the research and efforts states have already undertaken to develop and implement high-quality standards. The Council of Chief State School Officers and National Governors Association have led this initiative on behalf of 48 participating states, the District of Columbia, Puerto Rico and the Virgin Islands.

The membership of the Validation Committee was determined based on nominations by participating states and national organizations that were then reviewed by a group of six governors with leadership positions at NGA and six chiefs on the CCSSO executive board who were charged with selecting the final members of the committee. The individuals selected all have experience in the development or implementation of national or international standards or a demonstrated record of exceptional or unique expertise in English language arts, mathematics or a related field (e.g., special education, English language learners, assessment development, curriculum development).

The Validation Committee members reviewed the processes employed to develop the standards and considered various drafts of the standards to determine the degree to which the standards are: *reflective of the core knowledge and skills* in English Language Arts and mathematics that students need to be college and career ready at an appropriate level of clarity and specificity for common content standards *comparable to or aligned with* the expectations of other leading nations and states *informed by available research or evidence* the result of a process that reflects best practices for standards development a reasonable starting point for states to adopt as the basis for creating cross-state common core standards-based assessments.

Based on our deliberations and examination of the evidence, we, the undersigned members of the Common Core State Standards Initiative Validation Committee, certify that the Common Core State Standards in English Language Arts and Mathematics are *consistent with the criteria listed above*.

[SIGNATURES]

Appendix B: HIPPOCAMPAL-NEOCORTICAL FUNCTIONAL REORGANIZATION UNDERLIES CHILDREN'S COGNITIVE DEVELOPMENT.

Abstract

The importance of the hippocampal system for rapid learning and memory is well recognized, but its contributions to a cardinal feature of children's cognitive development—the transition from procedure-based to memory-based problem-solving strategies—are unknown. Here we show that the hippocampal system is pivotal to this strategic transition. Longitudinal functional magnetic resonance imaging (fMRI) in 7-9-year-old children revealed that the transition from use of counting to memory-based retrieval parallels increased hippocampal and decreased prefrontal-parietal engagement during arithmetic problem solving. Longitudinal improvements in retrieval-strategy use were predicted by increased hippocampal-neocortical functional connectivity. Beyond childhood, retrieval-strategy use continued to improve through adolescence into adulthood and was associated with decreased activation but more stable interproblem representations in the hippocampus. Our findings provide insights into the dynamic role of the hippocampus in the maturation of memory-based problem solving and establish a critical link between hippocampal-neocortical reorganization and children's cognitive development.

Published in the major medical journal in the world: *Nature: Neuroscience*, Sept. 17, 2014 pp. 1263-9. The authors are also major figures in their areas: (S. Qin, S. Cho, T. Chen, M. Rosenberg-Lee, David C. Geary, V. Menon).

Appendix C: FIRST YEAR MATHEMATICS COURSE TAKING IN FOUR YEAR COLLEGES AND UNIVERSITIES.

Descriptive Statistics for Students Enrolled in at Least One Mathematics Course, by Mathematics Content Area

Mathematics Content Area	n	%	HS GPA		FYP GPA		College Course Grade	
			Mean	SD	Mean	SD	Mean	SD
Calculus	32,034	44%	3.96	0.43	3.51	0.52	2.92	1.00
Algebra	20,893	29%	3.35	0.53	3.12	0.75	2.92	1.15
Statistics	13,427	18%	3.70	0.46	3.26	0.55	3.05	0.86
Trigonometry	10,051	14%	3.56	0.47	3.27	0.57	2.93	1.10
Discrete/Finite Math	8,424	12%	3.47	0.55	3.07	0.65	2.97	1.02
Algebra & Trigonometry	3,028	4%	3.46	0.48	2.96	0.78	2.58	1.11
Probability/Statistics	2,823	4%	3.63	0.46	3.14	0.59	2.96	1.07
Geometry	2,618	4%	3.29	0.56	3.23	0.65	2.97	0.71
Basic Mathematics	2,607	4%	3.22	0.56	2.89	0.79	2.68	1.15
Contemporary Mathematics	2,375	3%	3.55	0.51	3.25	0.67	2.68	1.06
Analysis	2,143	3%	3.69	0.45	3.01	0.75	2.75	1.13
Mathematical Reasoning/Theory	2,099	3%	3.42	0.50	2.91	0.68	2.71	1.09
Linear Algebra	2,047	3%	3.89	0.37	3.35	0.56	3.11	0.92
Differential Equations	1,977	3%	3.61	0.37	3.26	0.67	3.15	0.88
College/University Math	1,970	3%	3.42	0.49	3.35	0.62	2.91	0.94
Elementary Functions	1,856	3%	3.70	0.48	3.23	0.59	2.95	0.85
Trigonometry	1,679	2%	3.64	0.47	3.20	0.71	2.93	1.10
Mathematical Models	1,231	2%	3.54	0.55	2.95	0.65	2.98	1.01
Mathematical Reasoning	1,213	2%	3.47	0.49	3.11	0.61	2.95	0.95
Probability	1,041	1%	3.74	0.42	3.25	0.58	2.95	0.89
Other	15,483	21%	3.42	0.60	3.05	0.68	2.77	1.10
Mathematics Overall	117,890	100%	3.42	0.55	3.05	0.68	2.74	1.05

Note: This table is based on the 117,890 unique students with self-reported high school GPA and first year college GPA who took at least one mathematics course. Where students took multiple courses in a single area, their mean course grade was computed and then the mean across all students within that category was computed. Courses categorized as "Other" include: Introduction to Cryptography, Theory of Equations, and Women in Mathematics.

Appendix D: MISSING OR DELAYED TOPICS IN COMMON CORE MATH STANDARDS

R. James Milgram and Ze'ev Wurman, Stanford University

Kindergarten – Grade 7:

- CC does not require proficiency with addition and subtraction until Grade 4 (more than one grade behind our international competitors).
- CC does not require proficiency with multiplication using the standard algorithm (step-by-step procedure for calculations) until Grade 5 (more than two years behind standard expectations).
- CC does not require proficiency with division using the standard algorithm until Grade 6 (more than two years behind our international competitors).
- CC starts teaching decimals in Grade 4 (about two years behind the more rigorous states).
- CC fails to teach traditionally expected key geometrical concepts in K–7 (e.g., sum of angles in a triangle, isosceles and equilateral triangles, etc.).
- Excludes fluent conversion between different forms of fractions – regular fractions, decimals, and percents – which lowers expectations in state and district standards to say nothing about the fact that these relationships are key in quite a number of advanced areas, not least for understanding what the real numbers are and how they differ from fractions and decimals.
- CC fails to teach prime factorization. Consequently, it does not include teaching about least common denominators or greatest common factors.
- Compound interest and the associated formula,

$$\frac{(x^{n+1} - 1)}{(x - 1)} = 1 + x + x^2 + \dots + x^n.$$

This is a seventh or eighth grade topic in high achieving countries, and was a seventh grade topic in the old California standards. It is essential if we are to avoid disasters like the 2008 mortgage crisis, because it is this formula that gives the true cost of borrowing money.

Algebra 1: Missing components needed for any math class at the level of Algebra I or beyond

1. Division of monomials and polynomials (only addition, subtraction, and multiplication are covered)
2. Derivation and understanding of the properties of slopes of parallel and perpendicular lines
3. Manipulation and simplification of rational expressions. In particular, the basic property (partial fraction decomposition)

$$\frac{(ax + b)}{(cx + d)(ex + f)} = \frac{r}{(cx + d)} + \frac{s}{(ex + f)}$$

for arbitrary a, b , with its key applications to graphing and understanding rational functions, as well as basic preparation for pre-calculus, calculus, and even more importantly for the solutions of differential equations in engineering and the sciences. Without this background even students at schools like Stanford are unable to handle Junior and Senior level courses in these areas.³

4. Multi-step problems with linear equations and inequalities
5. Multi-step problems with four operations between polynomials
6. Multi-step problems involving manipulation of rational expressions
7. Solving two (or more) linear inequalities in two variables and sketching the solution set.
8. Any preparation for limits.
9. There is almost no development of the standard properties of ellipses, hyperbolas and parabolas, such as the existence and properties of the foci and directrix.

The following were added to California's Common Core version but they do not begin to alleviate the issues illustrated above:

10. Solve problems with equations and inequalities with absolute value
11. Solve problems with quadratic expressions

³ It is very interesting to note that McCallum was one of the main authors of a college calculus book called 'Harvard Calculus' that also omitted partial fraction decomposition. We found out the consequences of this when we adopted that text, and 2 years later our better students started complaining to us about the problems they were having in their more advanced courses in other areas, and I find it scary that someone with such a meager understanding of how math is applied would be one of the lead authors of the Common Core math standards.

Geometry: Some of the key topics that are missing

Properties of triangles and circles: Students should know that:

- Every triangle is circumscribed by a unique circle with center at the intersection point of the three perpendicular bisectors of the edges.
- All three perpendicular bisectors DO, in fact, intersect at a single point.
- Every right triangle has the center of the circumscribing circle on its hypotenuse.
- Conversely, the angle subtended by an arc on the circle (the angle obtained by drawing the two lines from the center to the ends of the arc), is twice the angle subtended by the ends of the arc and any point in the complement of the arc on the circle.

Algebra II: Some key topics missing

1. Writing quadratic polynomials in two variables as sums or differences of perfect squares. (KEY for the study of conic sections, which, in turn, underlies almost everything that is done in STEM areas.)
2. Introduction of the foci and the directrix for conics and their applications to parabolas and parabolic mirrors, and also for ellipses and elliptic surfaces with applications to things like whispering galleries and Kepler's laws.
3. Definition and implications of the eccentricity for conic sections.
4. Structure of logarithms to base 10, e , or general base, b . Conversion between bases, calculation of explicit values in simple cases.

Pre-calculus and Trigonometry: Some key topics that are not prepared for

1. Partial fraction decomposition of relatively simple rational functions and their graphs. Specifically, understand that a function of the form $(ax+b)/((x-r)(x-s))$ can always be written as a sum $(n/(x-r)) + (m/(x-s))$, where, in this case $m+n = a$, and $rm+sn = -b$. (This is one of the key applications of the systems of linear equations that are supposed to be studied in Algebra I or earlier. The other key application, *linear regression* – determining the regression line of a set of data points in the plane – is far too advanced for high school mathematics since it requires multi-variable calculus. Also, though just being familiar with the formula is useful to prepare students for AP Stats in HS, it is counter-productive to give students the resulting formula without also some understanding of how it arises

and how one can apply it incorrectly.)

2. Graph functions in polar coordinates. Key examples, circles in the form ($r = 2\cos(t)$), Cardioids ($2 + 2\cos(t) = r$), Rose petal curves ($r = \sin 5t$), lemniscates ($r^2 = 4\sin(2t)$), which are standard topics in the high achieving countries.
3. Basic addition and half angle formulas for sin and cosine.
4. Detailed study of surfaces of revolution coming from quadratic polynomials as described above. In particular, the focus here should be on parabolic mirrors and their applications.
5. Detailed study of surfaces of revolution coming from quadratic polynomials as described above. In particular, the focus here should be on parabolic mirrors and their applications.

Algebra II: Missing components needed for Calculus

- composite functions
- combinations and permutations
- finite and infinite arithmetic and geometric sequences
- introduction to mathematical induction

All four topics above are quite “formal” in line with the overly formal treatment of algebra in Common Cores Standards. But they are much more “realistic” in terms of the actual needs of students wishing to major in any technical area in college.

See:

<http://concernedpvparents.org/2014/05/27/cc-math-dumbed-down-proof/>

Appendix E: THE MEANING OF RIGOROUS IN EDUCATIONESE

There is a very convenient reference on the web for the Educationese meanings of many words at <http://edglossary.org>. Here is their definition of Rigorous:

Rigor

The term *rigor* is widely used by educators to describe instruction, schoolwork, learning experiences, and educational expectations that are academically, intellectually, and personally challenging. Rigorous learning experiences, for example, help students understand knowledge and concepts that are complex, ambiguous, or contentious, and they help students acquire skills that can be applied in a variety of educational, career, and civic contexts throughout their lives.

While dictionaries define the term as *rigid, inflexible, or unyielding*, educators frequently apply *rigor* or *rigorous* to assignments that encourage students to think critically, creatively, and more flexibly. Likewise, they may use the term *rigorous* to describe learning environments that are not intended to be harsh, rigid, or overly prescriptive, but that are stimulating, engaging, and supportive.

In education, *rigor* is commonly applied to lessons that encourage students to question their assumptions and think deeply, rather than to lessons that merely demand memorization and information recall. For example, a fill-in-the-blank worksheet or multiple-choice test would not be considered *rigorous* by many educators.

There are quite a few further terms like *twenty-first century skills*, *evidence based*, *career ready*, *reform*, and *acceleration* that are also worth looking up if one really wants to understand Education School faculty when they talk about education.


Appendix F: SCORES ON THE 1995 ADVANCED TIMSS


Exhibit 4: Multiple Comparisons of Advanced Mathematics Achievement for Students Having Taken Advanced Mathematics – Final Year of Secondary School*


The shaded cells in the table indicate that the average achievement of the students in the country is statistically significantly higher than that of the comparison country, significantly higher than that of the comparison country, or if there is no statistically significant difference between the two countries.

	AP Calculus Medians	France	Russian Federation	Switzerland	Australia	Denmark	China	Lithuania	Germany	Sweden	Canada	Spain	Italy	Czech Republic	Germany	United States	Austria
AP Calculus Medians																	
France																	
Russian Federation																	
Switzerland																	
Australia																	
Denmark																	
China																	
Lithuania																	
Germany																	
Sweden																	
Canada																	
Spain																	
Italy																	
Czech Republic																	
Germany																	
United States																	
Austria																	

Countries are ordered by average achievement across the heading and down the rows.

 Mean achievement significantly higher than comparison country

 No statistically significant difference from comparison country

 Mean achievement significantly lower than comparison country

* See Mullis and others, 1998 Appendix A for characteristics of the students sampled.

† Statistically significant at .05 level, adjusted for multiple comparisons.

Countries shown in italics did not satisfy one or more guidelines for sample participation rates or student sampling (see Mullis and others, 1998 Figure B.6).

Those Mathematical Societies That Supposedly Endorsed Common Core's Standards Didn't

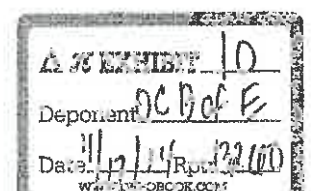
06 Oct 2014, by Sandra Stotsky

Stanford University mathematics professor R. James Milgram included an informative e-mail in his pocket of information for state legislators when he testified at a hearing on Common Core in Milledgeville, Georgia on September 24, 2014. The e-mail explains why presidents of many of the major mathematical organizations in the country endorsed Common Core's standards in July 2013. The author of the e-mail seems to believe that the societies themselves would be unlikely to endorse Common Core's standards, but that readers (i.e., the public) might be misled into thinking they had if they saw that the presidents had endorsed the standards. Consequently, the e-mail wants just the presidents' signatures because they would "likely" be just as "effective." The underlying assumption is that the members of these organizations would not be apt to learn what their presidents had done, much less know anything about the contents of Common Core's mathematics standards.

Appendix A shows the letter that Ron Rosier, Director of the Conference Board of the Mathematical Sciences (CBMS), sent to all society presidents on June 28, 2013. (Telephone numbers and personal e-mail addresses have been deleted.) Appendix B shows the "support statement" posted on July 24, 2013 by Professor William McCallum, a "lead" Common Core mathematics standards writer. It contains the signatures of all those who were willing to respond to Rosier's request.

The appendices make it clear that the support statement was to be signed by the presidents of CBMS member societies as a personal expression of support, not on behalf of their organizations. But it is also clear that the presidents were to be identified by means of their organization, not academic affiliation. Nor were they asked to review the Common Core standards but, rather, to provide a promotional statement for the Common Core. The support statement was posted on CBMS stationery less than a month after the initial request for signatures was sent out.

It is worth noting that the somewhat hostile legislators at the Georgia hearing never asked Professor Milgram: "What about these endorsements?"



Appendix A: Letter from Ron Rosier to CBMS Society Presidents

From: Ron Rosier

Sent: Friday, June 28, 2013 4:25 PM

To: Herb Clemens; Donald Saari; Charles Steinhorn; Marilyn Strutchen; MAA Pres; AMATYC Pres; AMS Pres; TODOS Pres; ASA Pres; ASL Pres; Kasbaum, Diana L. DFI; AWM Pres; BBA Pres; SIAM Pres; IMS President; AMTE Pres; MAA Pres; NAM Pres; NCTM Pres; NCSM President; AMS ExDir; AMS Sec; AMS Wash Dir; AMTE ExDir; ASA ExDir; ASL ExDir; AWM ExDir; BBA ExDir; IMS ExDir; SOA Rep; MAA ExDir; NAM ExSec; NCSM ExDir; NCTM ExDir; SIAM ExDir; AMATYC ExDir; Peter R. Turner

Cc: William McCallum; Jason Zimba; Phil Daro; Ken Krehbiel; breen; Arnette Emerson Idavy@hunt-institute.org; hy; Ellen Whitesides; Lisa Kolbe

Subject: Request for Agreement on Support Statement for CCSS

Dear All,

At the last CBMS meeting, there was discussion of trying to get the CBMS society presidents to agree on a joint statement from CBMS in support of the Common Core State Standards (CCSS). There was also discussion about getting a group of knowledgeable CCSS supporters to develop a set of common talking points. (FYI, I have appended below the summary of the discussion from the minutes of the meeting.)

I recently contacted Bill McCallum who graciously volunteered, in consultation with the other writers of the CCSS and other key persons, to draft both a Support Statement and a set of Talking Points. I have attached copies of both.

For the Support Statement, I would request and need a brief affirmative reply from each society president before I would add your name to the statement or make the statement public. Note that the statement does not express the formal support from the member societies (something which is rarely if ever given by many of our member societies for any kind of statement) but rather is an expression of support from the presidents, something which is much more doable and likely just as effective in promoting the statement.

The talking points are for use by you, your members, your local affiliates, etc., and do not require any statement of support.

I want to express my sincere thanks to Hy Bass, Ken Krehbiel of NCTM, Mike Breen and Arnette Emerson of AMS, and Lucille Davy, who have, along with the CCSS writers Bill McCallum, Jason Zimba, and Phil Daro, been participating in the email discussions which resulted in the attached documents. I know we can count on the expertise of these folks to make good use of whatever formal statement of support CBMS can offer toward the effective implementation of the Common Core State Standards in Mathematics.

I look forward to hearing from you.

Ron

From the minutes of the last CBMS meeting:

"Public Education about the Common Core State Standards (CCSS). There is much misinformation being promulgated about the CCSS. Also there is growing political pressure (e.g. the Republican National Committee's rejection of the CCSS) on governors and state legislators to withdraw from the CCSS. Gojak said we need to think strategically as a community to put together a constructive effort to promote CCSS. She said that Lucille Davy chairs a "partner group" involving businesses and CEOs that are working to promote CCSS and counter the misinformation. We need to find ways to work with such groups. There was then discussion of trying to build grass roots support, getting members to write legislators and governors about the good that the CCSS will do. Devaney suggested trying to get the math organizations to join with the math ed organizations to put together common talking points.

The most effective argument is not one that is defensive, but rather one that discusses the positives. It was finally agreed that we should try to put together a CBMS response, perhaps involving such folks as Mike Breen and Annette Emerson from AMS, Ken Krehbiel from NCTM, Lucille Davy, Hy Bass, the three CCSS Math authors and others. Clemens said this could be a really major project. Rosier was asked to try to coordinate this for CBMS in contact with some of the society presidents. Saari said this may be doable if we can get a good set of talking points and then let the various societies take them and run with them. There are two issues here, the local and the national.

Besides a set of talking points for the local level, Gojak also made a plea for a joint statement signed by all the CBMS societies. Rosier reiterated that he has no expertise in this area but that he will be willing to attempt to coordinate getting those with the expertise to work together on these two issues for CBMS.

Ronald C. Rosier
Conference Board of the Mathematical Sciences
1529 Eighteenth St NW
Washington DC 20036

Appendix B: Common Core State Standards for Mathematics: Statement by Presidents of CBMS Member Professional Societies
(<http://commoncoretools.me/wp-content/uploads/2013/07/Support-Statement-for-CCSSMath.pdf>)

In a great act of foresight for this nation, most of the states have now adopted a consistent set of expectations for school mathematics, called the Common Core State Standards. Building on long years of work, the Common Core State Standards are an auspicious advance in mathematics education. They define the mathematical knowledge and skill that students need in order to be ready for college and career, and provide the basis for a curriculum that is focused and coherent. If properly implemented, these rigorous new standards hold the promise of elevating the mathematical knowledge and skill of every young American to levels competitive with the best in the world, of preparing our college entrants to undertake advanced work in the mathematical sciences, and of readying the next generation for the jobs their world will demand. Much remains to be done to implement the standards, in curriculum, assessment, and teacher education. But we now have, for the first time in our history, a common blueprint for this work across state lines. This is not the time to turn away from our good fortune. We, the undersigned presidents of the following member societies of CBMS, hereby express our strong support for the Common Core State Standards for Mathematics.

James Roznowski: American Mathematical Association of Two Year Colleges

David Vogan: American Mathematical Society

Marie Davidian: American Statistical Association

Alasdair Urquhart: Association for Symbolic Logic

Ruth Charney: Association for Women in Mathematics

Fran Arbaugh: Association of Mathematics Teacher Educators

Diana Kasbaum: Association of State Supervisors of Mathematics

Vanessa Cleaver: Benjamin Bancker Association

Hans Kuensch: Institute of Mathematical Statistics

Robert Devaney: Mathematical Association of America

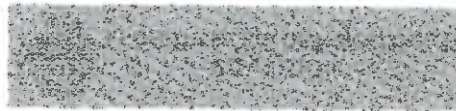
Nathaniel Dean: National Association of Mathematicians

Valerie Mills: National Council of Supervisors of Mathematics

Linda Gojak: National Council of Teachers of Mathematics

Irene Fonseca: Society for Industrial and Applied Mathematics

Don Balka: TODOS: Mathematics for ALL



Developmental, Psychological, Privacy and Health Issues with the Common Core Standards, Tests, and Data Collection System in English Language Arts and Mathematics

Prepared for the Orange County, California Board of Education 11/17/14

Karen B. Effrem, MD

President of Education Liberty Watch and Executive Director of the Florida Stop Common Core Coalition

The Common Core standards and the related and aligned testing and data collection systems are problematic for many reasons. These comments will focus on the developmental inappropriateness; the teaching of vague, subjective, and controversial psychosocial standards; loss of privacy, potential physical harm from technological radiation, and illegal, unconstitutional, and unconsented psychological profiling

There are many standards that veteran educators, standards experts, psychologists, and I, as a pediatrician, find developmentally inappropriate. This problem most likely relates to the fact, pointed out by many veteran teachers, that K-3 teachers and early childhood professionals were excluded from the development of the standards.¹

Some examples of these developmentally inappropriate standards are found in Appendix A. They include requiring children to reason abstractly in math from grades K-12, when according to Piaget, they are not ready to do so until third or fourth grade. Three or four years of these unreasonable requirements will cause great stress in children, preventing them from being able to learn math foundationally and sequentially so that they are able to learn harder concepts later or simply attempt to refuse school, losing the desire and love of learning and feeling frustrated and or stupid as in this case described by a school psychologist seeing greatly expanded numbers of children with symptoms of stress related to Common Core:

- ...an entire third grade class that spent the rest of the day sobbing after just one testing session
- ...a 2nd grader who witnessed this and is now refusing to attend the 3rd grade—this 7-year-old is now being evaluated for psychotropic medication just to go to school²

Parents, students, and teachers from Palm Beach County in my home state of Florida chronicled by the Palm Beach Post and The New York Times described very difficult situations:

- "My third grader loves school, but I can't get her out of the car this year," Dawn LaBorde, who has three children in Palm Beach County schools, told the gathering, through tears. Her son, a junior, is so shaken, she said, "I have had to take him to his doctor." She added: "He can't sleep, but he's tired. He can't eat, but he's hungry."³
- One father broke down as he said he planned to pull his second grader from school. "Teaching to a test is destroying our society," he said.⁴

¹ Valerie Strauss – A Tough Critique of Common Core on Early Childhood Education – The Answer Sheet, Washington Post 1/29/13
<http://www.washingtonpost.com/blogs/answer-sheet/wp/2013/01/29/a-tough-critique-of-common-core-on-early-childhood-education/>

² <http://dianeravitch.net/2013/11/10/test-related-stress-on-the-rise-in-new-york/>

³ Lorette Alvarez - States Listen as Parents Give Rampant Testing an F – The New York Times 11/9/14

http://www.nytimes.com/2014/11/10/us/states-listen-as-parents-give-rampant-testing-an-f.html?hpw&ref=education&action=click&pgtype=Homepage&module=well-region®ion=bottom-well&WT.nav=bottom-well&_r=0

⁴ Ibid

EXHIBIT 11
Deponent: <i>K. B. Effrem</i>
Date: <i>11/17/14</i> Rptr: <i>12/10/14</i>

- Hours to prep for computerized testing of kindergartners. "I watched a student suffer for over an hour. They had no idea how to work the computer mouse." Five teachers, working one-on-one with students got only 10 of 120 students done in one school day. "That night I went home and cried." - Chris White, teacher at a Title 1 elementary school.⁵
- Children don't know the language – what's 'drag and drop' to a child who's not worked on a computer? The books were designed to go with one test, we're using another. - Karla Yurick, 5th grade math teacher⁶

Other serious signs of stress even in young children include:

- Self-mutilating behaviors
- Insomnia
- Panic attacks
- Loss of appetite
- Anxiety
- Depressed mood

Another math standard that is unnecessarily complex for young children include these identified by former US Department of Education math and science expert Ze'ev Wurman:

MACC.K.G.1.1 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) -Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

Child psychologist, Dr. Gary Thompson, from whom you heard in October, said the following of certain Common Core math standards⁷:

"There are kids/teens (as well as adults like myself) who will never master "symbolic processing" of numbers and math concepts.....just like I will never be able to hit a 90 mile per hour fastball 385 feet over the left field wall in Dodger Stadium. Ever.

We have high functioning, genius IQ autistic/Aspergers kids who, despite demonstrated giftedness in math, will never be able to answer this question due to their brains' inability to process anything symbolically....let alone stuck at a desk in front of a computer screen.

Tens of thousands of Utah public school children will never be able to process math in this manner over the course of their public school education.

This is cognitive child abuse."

⁵ Sonja Isgar : Meeting extra: Common Core disorder? Simple math in 15 not-simple steps? – Palm Beach Post 10/14/14
<http://extracredit.blogs.palmbeachpost.com/2014/10/14/meeting-extra-common-core-disorder-simple-math-in-15-not-simple-steps/>

⁶ Ibid

⁷ <http://whatscommoncore.wordpress.com/tag/dr-gary-thompson/>

Utah child psychologist Joan Landes said the following:

"I agree that CC standards are not only developmentally inappropriate for youngsters, they focus on a very limited range of learning modalities (neo-cortical left-brain areas) thus limiting future abilities to learn much more complex subjects. The CC developers entirely missed the point of early/young childhood education when they focus on either the acquisition of facts (losing the opportunity to develop other areas of the brain to enhance future learning capabilities) or by making demands for abstract reasoning before developmentally ready (which will create a myriad of behavioral, emotional and learning problems). In addition, because the standards and assessments are so hyper-focused and high pressured for rigid cognitive (left-brain) activities, the children who have learning disabilities and/or delays will find school even more destructive to self-confidence and flexible learning."⁸

Professor Joann Yatvin, an expert member of the National Council of Teachers of English lists some general developmental problems with the English standards⁹:

Some standards call on young children to behave like high school seniors, making fine distinctions between words or literary devices, carrying on multiple processes simultaneously, and expressing their understandings in precise academic language. Others expect them to have a strong literary background after only two or three years of schooling. Some standards are so blind to the diversity in American classrooms that they require children of different abilities, backgrounds, and native languages to manipulate linguistic forms and concepts before they have full control of their own home language. And, sadly, a few standards serve only to massage the egos of education elitists, but are of no use in college courses, careers, or everyday life.

Examples of developmentally problematic English standards include:

CCSS.ELA-Literacy.SL.K.2 Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.

CCSS.ELA-Literacy.SL.K.1a Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).

CCSS.ELA-Literacy.SL.K.1b Continue a conversation through multiple exchanges.

Comment: Asking children this young to behave like little adult corporate board members is completely inappropriate, especially when many adults have not mastered these non-cognitive workforce based competencies. (Efferm)

The highly respected Gezell Institute for Child Development said the following about these standards back in 2010:

The core standards being proposed by the National Governors Association and the Council of Chief State School Officers are off the mark for our youngest learners. We at Gezell Institute call for a new set of standards for Kindergarten through Grade 3 that adhere to solid principles of child development based on what research says about how and what young children learn during the early years, birth to age eight. The proposed standards for Kindergarten through grade 3 are inappropriate and unrealistic. Policy must be set based on hard data and not on unrealistic goals surrounding test scores...

⁸ Ibid.

⁹ Joanne Yatvin: The Common Core Standards May Be Harmful to Children - <http://zuthachalkface.com/2014/01/03/joanne-yatvin-the-common-core-standards-may-be-harmful-to-children/>

..We urge the National Governors Association and the Council of Chief State School Officers to respect the individual developmental differences of children and revise the K-3 standards based on research and the advice of experts in the field of early childhood. Having endorsed The Alliance for Childhood's Joint Statement of Early Childhood Health and Education Professionals on the Common Core Standards initiative, we support the call to withdraw the early childhood standards and create a consortium of experts "to develop comprehensive guidelines for effective early care and teaching that recognize the right of every child to a healthy start in life and a developmentally appropriate education."¹⁰ (<http://www.allianceforchildhood.org/>)

That Joint Statement of Early Childhood Health and Education Professionals on the Common Core Standards Initiative signed by more than five hundred early childhood professionals opposed to Common Core contains these four important points about the consequences of this problem:¹¹

1. The K-3 standards will lead to long hours of direct instruction in literacy and math. This kind of "drill and grill" teaching has already pushed active, play-based learning out of many kindergartens.
2. The standards will intensify the push for more standardized testing, which is highly unreliable for children under age eight.
3. Didactic instruction and testing will crowd out other crucial areas of young children's learning: active, hands-on exploration, and developing social, emotional, problem-solving, and self-regulation skills—all of which are difficult to standardize or measure but are the essential building blocks for academic and social accomplishment and responsible citizenship.
4. There is little evidence that standards for young children lead to later success. The research is inconclusive; many countries with top-performing high-school students provide rich play-based, nonacademic experiences—not standardized instruction—until age six or seven.

The issue of teaching, testing and collecting data on psychological attitudes, values and beliefs is extremely serious and a major concern to parents, citizens, and experts. It was serious enough to be mentioned in Florida Governor Rick Scott's 2013 executive order on the standards:

"WHEREAS, Floridians have raised concerns about the Federal government's interest in using educational standards and assessments to collect data on psychological attitudes, values, and beliefs..."¹²

Despite promises by proponents that the Common Core Standards are "academic" and "rigorous," documentation from the U.S. Department of Education, the National School Boards Association, The American School Counselors Association, The Collaborative for Academic, Social and Emotional Learning, school districts, and other sources indicate that a number of standards will be used for psychological training of children starting at a young age as evidenced by the following quotes:

- "In national policy, there is increasing attention on 21st-century competencies (which encompass a range of noncognitive factors, including grit), and persistence is now part of the Common Core State Standards for Mathematics."¹³ (Emphasis added.)

¹⁰ <http://www.allianceforchildhood.org/standards>

¹¹ http://www.edweek.org/media/joint_statement_on_ccss_standards.pdf

¹² Governor Rick Scott Executive Order 13-276 <http://www.flgov.com/wp-content/uploads/2013/09/EO-13-276.pdf>

¹³ U.S. Department of Education Office of Technology – Promoting Grit, Tenacity, and Perseverance: Critical Factors for Success in the 21st Century – February 2013 <http://www.ed.gov/editions/technology/files/2013/02/OET-Draft-Grit-Report-2-17-13.pdf>

- * "National model standards often contain elements of social and emotional learning. For example, 42 states and two territories are in the process of adopting the Common Core Standards in Math and English Language Arts, which contain standards on communication (especially speaking and listening), cooperation skills, and problem solving."¹⁴ (Emphasis added.)
- * "ASCA [American School Counselors Association] Mindsets & Behaviors align with specific standards from the Common Core State Standards through connections at the competency level."¹⁵
- * "There are many other Common Core Standards that these social and emotional basic skills can be integrated with."¹⁶ (Emphasis added.)
- * "As we began to unpack these standards, we found a clear correlation between Common Core and social, emotional learning."¹⁷ (Emphasis added.)
- * "Various elements of SEL can be found in nearly every state's K-12 standards framework and in the Common Core State Standards for the English Language Arts."¹⁸(Emphasis added.)

A more comprehensive list of these subjective, controversial, psychosocial and sociocultural standards is available in Appendix B of this document, but here are a few examples:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.
Comment: Admitted by an educator based on CASEL criteria to be a psychosocial skill for "Responsible Decision Making" that "includes problem identification and problem solving; evaluation and reflection; personal, social, and ethical responsibility." This is also admitted by the US Department of Education report discussed above to be a "non-cognitive," "21st Century" skill. So, if a student fails the questions related to this subjective national standard on a federally funded, federally supervised national test such as PARCC, which is still under consideration in Florida, or some other national test like ACT that will be doing "behavioral assessment," will that data in their permanent data file to be seen by employers and colleges and who knows who else show that they are not personally, socially, and ethically "responsible"?
- CCSS.ELA-Literacy.W.2.3 Write narratives, in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.
Comment: Admitted by Nancy Orme of Anchorage School District to correspond to socioemotional learning standards for "Self-Awareness" that requires students to "demonstrate awareness of their emotions;" "recognize and label emotions/feelings;" and "describe their emotions and feelings and the situations that cause them (triggers)."¹⁹
- CCSS.ELA-Literacy.L.3.5c - Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g. knew, believes, suspected, heard, wondered)

¹⁴ Linda Dusenbury - State Learning Standards to Advance Social and Emotional Learning: The CASEL State Scan of Social and Emotional Learning Standards: Preschool through High School – Collaborative for Academic, Social, and Emotional Learning, April 2011.
<http://casel.org/wp-content/uploads/2011/04/Brief-on-the-State-Scan-4-18-2011.pdf>

¹⁵ American School Counselors Association - Change Behaviors by Changing Mindsets -
<https://www.schoolcounselor.org/magazine/blogs/november-december-2014/change-behaviors-by-changing-mindsets>

¹⁶ EduThompson Blog - Integrating Social Emotional Curricula and the Common Core – 7/20/13

<http://insidetheclassroomoutsidethebox.wordpress.com/2013/07/07/integrating-social-emotional-curricula-and-the-common-core/>

¹⁷ Pamela Orme, Anchorage School District, social studies curriculum coordinator, Social Emotional Learning in Common Core State Standards - <http://www.youtube.com/watch?v=Z2Mhn-9SRoA>

¹⁸ National Association of State Boards of Education – *Social-Emotional Learning* - From Practice to Policy, October 2013
<http://www.nasbe.org/wp-content/uploads/EPP-Social-Emotional-Learning.pdf>

¹⁹ Pamela Orme, Anchorage School District, social studies curriculum coordinator, Social Emotional Learning in Common Core State Standards - <http://www.youtube.com/watch?v=Z2Mhn-9SRoA> starting at 1:23.

Comment: This requires abstract thinking and knowing children's state of mind, others' states of mind and applying it to the meanings of various words. According to Piaget, children are not really capable of abstract thinking until eleven or twelve years of age. Knowing states of mind is quite a subjective endeavor at any age.

- CCSS.ELA-Literacy.CCRA.W.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Comment: This standard has been acknowledged by an educator based on criteria from the Collaborative for Academic Social and Emotional Learning to be a psychosocial skill that deals with "Self-Awareness/Management and "focuses on identifying and recognizing emotions; self-efficacy; control of oneself; self-motivation and discipline; goal setting; and organizational skills."²⁰

That there is psychological and attitudinal teaching in curriculum and lesson plans aligned to the Common Core is also very clear:

- September 9, 2013 Political Party Activity for middle school students in Indian River County²¹ in English class linked to specific Common Core standards per teacher's lesson plan:²²
CCSS: LACC.6S.RH.1.2, LACC.6S.RH.2.4, LACC.6S.WHST.1.2, LACC.7.SL.1.1
- The now Common Core aligned SpringBoard English Language Arts curriculum, having been previously adopted by several large Florida counties, such as Orange County²³ and Hillsborough County²⁴ is now bidding for the 2013-14 Florida statewide textbook adoption in grades 6-8.²⁵ This English curriculum is published by the College Board, now led by chief Common Core English architect David Coleman and responsible for the SAT college entrance exam, the GED high school graduation test, and the AP tests. This curriculum contains many controversial, non-cognitive, psychosocial survey assessments scattered throughout the curriculum that will become part of children's academic record for life:
 - Activity 2.14 – From a Marxist Perspective in Unit 2 the Collective Perspective²⁶ that describes Marx as a "philosopher, economist, political theorist, historian, and published author" and contains ten survey questions requiring children to "Review these statements about the importance of money, power, and social class, and then circle the responses that most nearly reflect your beliefs" by saying where they "Strongly Agree, Agree, Disagree, or Strongly Disagree"
 - "I would rather marry someone I love than someone that is rich."
 - "Middle class people are happier than wealthy or poor people"
 - "People that have power have earned it and deserve to enjoy it."

²⁰ EduThompson Blog – Integrating Social Emotional Curricula and the Common Core – op. cit.

²¹ Political Party Activity for middle school students in Indian River County <http://watchdogwire.com/florida/2013/09/16/breaking-news-fl-middle-school-student-survey-asks-what-kind-of-a-party-animal-are-you/>

²² Lesson plan containing links to specific Common Core standards

<http://teacherites.schoolworld.com/webpages/gmschivics/masterisn.cfm?subpage=1764110>

²³ http://www.fldoe.org/board/meetings/2007_02_20/OrangeStRep.pdf

²⁴ Marilyn Brown – *New Curriculum Becomes A SpringBoard For Teacher Criticism* - Tampa Tribune 3/6/09

<http://tbo.com/news/education/new-curriculum-becomes-a-springboard-for-teacher-criticism-113133>

²⁵ See detailed bids at http://www.fldoe.org/bi/instruct_mat/pdf/2013-14DraftSAB.pdf

²⁶ SpringBoard English Textual Power Senior English, College Board, pp. 113-116, documentation available on request.

- "The newest program from The Social Express provides teachers and professionals with reporting summaries that are relevant to them. This internet-based interactive education technology tool *aligns with the Common Core State Standards (CCSS)*, an initiative that is already being implemented nation-wide in the public schools. This new feature of the program will make writing social skill educational goals and reporting on progress easier for all professionals working with their students."²⁷
- Here is such an example for first grade English Language Arts, entitled Voices, approved for use with the Common Core in Utah:²⁸
 - "In the Voices Democracy theme, students use their voices to advocate solutions to social problems that they care deeply about. They are involved in learning the following theme related social knowledge and skills: social role models, *social advocacy*, and respect for each other." (Emphasis added).
Comment: Nothing in the discussion of the Common Core standards by the proponent groups has discussed aligned curriculum to be used for social advocacy. This is a complete betrayal of the advertising of these standards and their aligned curriculum as being "clear," "academic," and "rigorous."
 - "Tell students when they write a call to action, they should include emotional words to get readers to feel so strongly about a problem that they want to do what is being asked of them."

Plans to assess psychological traits in the Common Core aligned assessments are also abundantly evident. Despite the denial of federal involvement in test development on the FL DOE website,²⁹ it is clear that the federal government has a very large role in funding and supervising the development of the national tests for these two multi-state testing consortia. This quote from the US DOE announcement of the formation of the technical review panel in March of this year indicates that the federal government is involved in supervising the writing of the test questions for the Common Core tests that, as shown below, will include testing of these psychological attitudes and traits:

- "The review will focus on two broad areas of assessment development: the consortium's research confirming the validity of the assessment results and the consortium's approach to developing items and tasks." (Emphasis added)

Here are some other examples of assessing attitudes and psychological traits

- "[A]s new assessment systems are developed to reflect the new standards in English language arts, mathematics, and science, significant attention will need to be given to the design of tasks and situations that call on students to apply a range of 21st century competencies that are relevant to each discipline. A *sustained program of research and development will be required to create assessments that are capable of measuring cognitive, intrapersonal, and interpersonal skills.*" (Emphasis added).
- "There are important opportunities to leverage new and emerging advances in technology (e.g., educational data mining, affective computing, online resources, tools for teachers) to develop unprecedented approaches for a wide range of students."³⁰
- The "affective computing" mentioned above, according to the same federal report, is accomplished using the devices in this picture:³¹

²⁷ PR Web - School Districts Pilot Web-Based Social Skills Program by The Social Express - <http://www.prweb.com/releases/social-skills-learning/social-skills/prweb10385075.htm> 1/31/13

²⁸ Voices ELA Curriculum as quoted and filmed in You Tube video "Indoctrination in Common Core ELA Texts": <http://www.youtube.com/watch?v=rGah7CIRmo8&feature=youtu.be>

²⁹ Florida Department of Education -Demystifying the Movement: Answers to Common Myths About the Common Core State Standards <http://www.flde.org/schools/pdf/dmfaaccsa.pdf?223page=1&zoom=auto,0,300>. Last accessed 10/16/13. No longer available as of 10/23/13. Quoted and analyzed at: <http://www.fistep.org/allison.org/news/2013-07/press-release-hennett-doe-disseminating-false-information-common-core.htm#sthash.vNCxW1EV.dpuf>

³⁰ Grit report, op cit

³¹ Ibid

- o National Curriculum and Federal Interference

- "AIR writes 'Race to the Top' guidance papers to foster implementation of President Obama's nationalized education agenda." [The legal, constitutional, and local control problems with Common Core are discussed in Chapter 1 of our policy analysis³⁷].
- One of AIR's chief research analysts in mathematics, Steve Leinwand, has the following quote in his bio³⁸:
 - "The fact that, for the first time, the U.S. has what is essentially a national curriculum, equivalent in quality to what is found in the highest scoring countries in the world, means that the focus of leadership can finally shift from arguing about what math to teach, to how best to teach the agreed upon content to all students." (Emphasis added)
- AIR also admits that Common Core has mandates, federal strings, and they will be testing based on Common Core in one of their presentations³⁹ (bold emphasis in original, italics added):
 - The CCSS mandates the student learning outcomes for every grade level. Students will be tested and instructional effectiveness will be measured based on CCSS. Federal funding is tied to CCSS adoption, implementation, and accountability. English Language Arts and Mathematics CCSS are just the beginning. . . more subject area standards are being developed.

- o Career and Teacher Control

- AIR champions "College and career readiness," which is euphemistic terminology for Common Core's agenda of centralized control over children's career paths. [This is the School to Work agenda that is pushed by Mark Tucker, president of the National Center for Education and the Economy⁴⁰ and author of the infamous "Dear Hillary Letter that spelled out his vision of controlling the career choices of everyone."⁴¹]
- AIR advances the "Value added measures in education," an empirically discredited methodology of teacher evaluation.⁴²
- An official for the ACT who is developing Common Core tests for other states in grades 3-10 such as those that have pulled out of PARCC and SBAC said, "There would be interest inventories for students, as well as assessment of behavioral skills for students and teachers to evaluate."⁴³ (Emphasis added)
- Psychological assessment and monitoring is also accomplished directly via Common Core aligned curriculum,
 - o "The Student Observation Form on Assessment Handbook page 11 is an informal assessment tool that notes growth and change in individual students' behaviors and attitudes." (Emphasis added)
 - o Under that rubric,⁴⁴ students are graded at various levels on whether they "Use first person plural voice (our) to advocate ways to solve the problem." (Emphasis added)

³⁷ Efirem, K. and Osborne, R. – Florida's Common Core Standards: A Policy Analysis – 2013 Florida Stop Common Core Coalition and Florida Eagle Forum <http://bit.ly/1JCRT9t>

³⁸ <http://steveleinwand.com/about/>

³⁹ http://www.betterhighschools.org/MidwestSIG/documents/Ratway_Presentation.pdf

⁴⁰ www.ncee.org

⁴¹ http://www.eagleforum.org/educate/marc_tucker/

⁴² For more details on this see the website VAMBoozled at <http://vamboozled.com/>

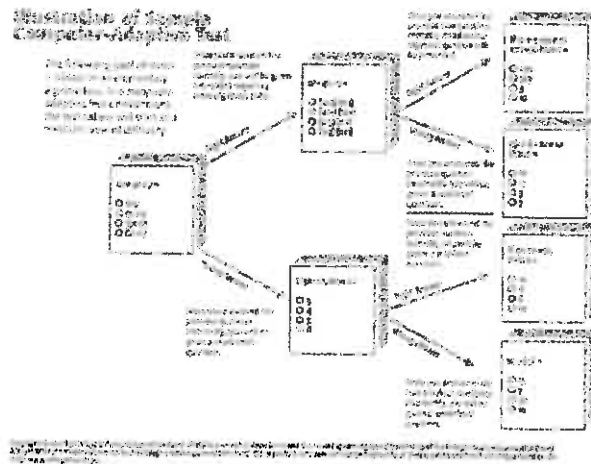
⁴³ http://blogs.edweek.org/edweek/college_bound/2012/07/act_plans_to_roll_out_caresr_and_college_readiness_tests_for_3rd-10th_grades.html

⁴⁴ Ibid

- Activity 4.9 – Justice and Moral Reasoning⁴⁵ contains a survey in the SpringBoard curriculum, which is used at least in three California school districts⁴⁶, discussed above called “How Just Are You?” with items such as:
 - I should pay all my taxes because I could go to jail if I do not
 - people will think of me as a good citizen
 - my taxes along with those of others will help to pay for services used by all

Depending on whether students respond with a majority of “a,” “b,” or “c” responses they are forced to rate themselves as “pre-conventional,” “conventional,” and “post-conventional” based on psychologist Lawrence Kohlberg’s Three Levels and Six Stages of Moral Reasoning. This is clearly a psychological test about which parents receive no notification and for which their consent is not asked.

SBAC especially, through AIR will be using computer adaptive testing where the questions change depending on the answers to the previous questions. The tests results can be manipulated depending on the need of those in charge to make the test scores look better or worse, to inculcate certain attitudes or behaviors by not letting the student continue until he has answered a certain way all without the parent, the teacher or policy makers knowing what is happening. This creates stress, uncertainty, manipulation, makes the tests useless for the much ballyhooed comparisons across state lines or for improving learning, because no one ever sees the actual questions or results.. Here is an illustration:



Both PARCC and SBAC, the two multi-state consortia that are developing the federally funded, federally supervised national Common Core aligned test which will assess these various psychological parameters, has signed a memorandum of understanding with the federal government to share individual student data with them:

“Comply with and where applicable coordinate with the ED staff to fulfill the program requirements established in the RTTA Notice Inviting Applications and the conditions on the grant award, as well as to this agreement, including, but not limited to working with the Department to develop a strategy to make student-level data that results from the assessment system available on an ongoing basis for research, including for prospective linking, validity, and program improvement studies; subject to applicable privacy laws”⁴⁷ (Emphasis added)

⁴⁵ SpringBoard English Textual Power Level 5- College Board, p. 256, documentation available on request.

⁴⁶ http://www.suzanoltranian.org/show_structures.php?id=9281

⁴⁷ COOPERATIVE AGREEMENT Between the U.S. DEPARTMENT OF EDUCATION and the PARTNERSHIP FOR ASSESSMENT OF READINESS OF COLLEGE AND CAREERS 1/7/11 PR/Award #: S395810001 and S395810001A <http://www2.ed.gov/programs/racetothetop-assessment/partcc-cooperative-agreement.pdf>

This is highly significant because it shows that one of the main goals for uniform national assessments like PARCC and SBAC is for the federal government to have access to highly personal individual student data. The “subject to applicable privacy laws” part of that agreement quoted just above is useless. The advocates of this kind of invasive data collection on our children and their families constantly say that student privacy is protected by Family Educational Rights and Privacy Act (FERPA) and that parents should not be concerned. Yet, because of the significant weakening of FERPA regulations that occurred in 2011, there are many people who have access to students’ sensitive individually identifiable information, including the psychological data described above without parental consent:

Here is the definition of authorized representative in the federal regulations:

“Authorized representative means any entity or individual designated by a State or local educational authority or an agency headed by an official listed in §99.31(a)(3) to conduct—with respect to Federal- or State-supported education programs—any audit or evaluation, or any compliance or enforcement activity in connection with Federal legal requirements that relate to these programs.”⁴⁸ (Emphasis added)

§ 99.31 Under what conditions is prior consent not required to disclose information?⁴⁹

(a) An educational agency or institution may disclose personally identifiable information from an education record of a student without the consent required by §99.30 if the disclosure meets one or more of the following conditions:

(1)(i)(A) The disclosure is to other school officials, including teachers, within the agency or institution whom the agency or institution has determined to have legitimate educational interests.

(B) A contractor, consultant, volunteer, or other party to whom an agency or institution has outsourced institutional services or functions may be considered a school official under this paragraph provided that the outside party... (Emphasis added)

This expansion of who has access to personally identifiable information occurred as a direct result of a regulatory weakening of FERPA by the Obama Administration. In fact, The Electronic Privacy Information Center (EPIC) is suing the U.S. Department of Education in federal court over this very matter.

So instead of knowledge-based academic and cognitive data, our children will be taught and assessed on controversial psychosocial attitudes and beliefs and have that data become part of their permanent records, all without parental knowledge or consent. This data can and most likely will be used to psychologically profile children for everything from “kindergarten readiness,” to the type of job for which government or corporate authorities determine they are most suited; to whether they are “at risk” for some type of psychiatric diagnosis, even though mental screening of children is notoriously inaccurate; to whether they have adequately internalized some government desired concept.

There is a large loophole in the Protection of Pupil Rights Amendment⁵⁰ which is supposed to protect students from surveys asking about “Mental and psychological problems potentially embarrassing to the student and his/her family,” because it does not apply to “curriculum and instructional materials” or to “tests and assessments.”

⁴⁸ Code of Federal Regulations – §99.3 What definitions apply to these regulations? - <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=11975031082001b6d902b3e73f33e604&rgn=div5&view=text&node=34:1.1.1.33&idno=34X2334:1.1.1.33.4.132.1#34:1.1.1.33.4.132.1>

⁴⁹ Title 34: Education PART 99—FAMILY EDUCATIONAL RIGHTS AND PRIVACY – § 99.30 Under what conditions is prior consent required to disclose information? <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=11975031082001b6d902b3e73f33e604&rgn=div5&view=text&node=34:1.1.1.33&idno=34X34:1.1.1.33.4.132.1>

⁵⁰ 20 U.S.C. § 1232h; 34 CFR Part 98

In addition, as was discussed above, the federal government's involvement in the writing of national test questions, the requirement to give individual student data to the federal department of education, and the regulatory weakening of FERPA by the Obama administration have combined to all but completely erode any hope a student has for protection from such unconsented psychological probing and for data privacy.

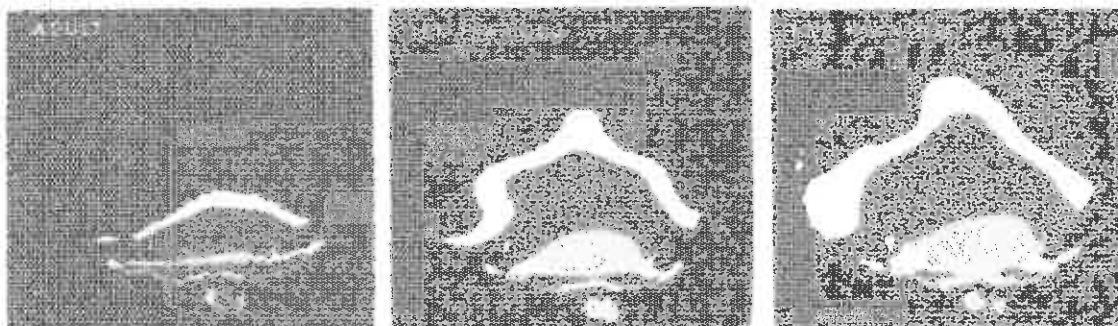
This information combined with the federal plans discussed above to make sure that these federally funded and supervised assessments measure psychological attributes which will then be kept in a child's lifelong data dossier is in this author's opinion as a pediatrician and a parent, the worst, most freedom endangering aspect of the entire Common Core system.

Before concluding, it should be mentioned that there is growing concern in medical circles about the considerable potential harm that radiation from wireless technology does to children, especially young ones:

- The United States has more wireless technology than anywhere else in the world⁵¹:



- The fastest growing segment of the cell phone market is 5-12 year olds, and by 2010 there will be 10.5 million cell phone users under the age of 15. .
- According to the National Institute for Environmental Health Sciences, "EMF has been recommended to be classified as a Group 2B carcinogen under standards established by the World Health Organization's Agency for Cancer Research", which happens to be the same category containing DDT, formaldehyde, and lead⁵²
- Children's skulls are much less dense; hence the radiation plume coming from a cell phone can easily penetrate their skull⁵³:



- France is in the process of banning the use of cell phones for children 12 and under.⁵⁴

⁵¹ http://www.mapcruzin.com/images/cell-towers-people-earth_350x382.jpg

⁵² "Adverse Health Effects of EMF Stress & Bioprot Technology Solutions" by Tim Leitch http://bioprotect.timleitch.net.nz/protection/stress_effects_outline.htm and http://www.mercola.com/article/emf/emf_dangers.htm

⁵³ <http://articles.mercola.com/sites/articles/archive/2009/11/26/mobile-phones-psd-four.aspx>

In conclusion, because of the many academic problems, the psychological training and testing without parental consent and teaching of many standards that are completely developmentally inappropriate. Education Liberty Watch strongly recommends the following:

- 1) Orange County and California should withdraw from the Common Core Standards in Mathematics and English Language Arts. Many of the standards highlighted in this document as well as in the comments of other experts make them too problematic to keep.
- 2) The K-3 standards should be rewritten by a panel of early childhood/early elementary teachers and professionals that can put together a developmentally appropriate set of standards that will prevent the stress related illness that is occurring now related to the frustration and inability to learn from these standards and their related tests. I concur with Utah psychologist Joan Landes who says:
"In my opinion, a better approach to education in the primary grades would incorporate many of the tried and true activities from the first part of the 20th century to activate many disparate areas of their incredibly plastic brain (not to mention a child's heart): Learning an instrument, Character values, Art, Sports, Games, Penmanship, Speaking, Singing, Reading and listening to narrative fiction and poetry and memorization (the kids even used to memorize poetry in foreign languages!). These activities (while not meeting a fact-acquisition or analytical benchmark) nevertheless activates critical areas of the brain which increases later connections exponentially."⁵⁵
- 3) Neither SBAC nor any other test should be examining psychological attitudes, values and beliefs.
- 4) No curriculum used in California, whether Common Core aligned or not, should be teaching or assessing psychological or psychosocial attitudes, values and beliefs.
- 5) Because of the cost, the time lost from computer use for testing, the inability of parents and teachers to see what is being tested or emphasized, the loss of data privacy, and the potential dangers from radiation, tests should be given by paper and pencil.

⁵⁴ <http://www.lesleyknight.com/AnnouncementRetrieve.aspx?ID=1024>

⁵⁵ Landes – See footnote

Appendix A – Examples of Developmentally Inappropriate Common Core Standards

The concerns about the following standards being developmentally inappropriate are based on my opinion as a pediatrician and concurrence with the opinions of several experts who will be cited below. They will be divided into subject areas.

Mathematics

This anchor standard is of concern to me as a pediatrician:

Mathematical Practices – Reason abstractly and quantitatively

Comment: According to Piaget, children are not able to reason abstractly until age eleven or twelve. That is very problematic for students in grades K-4. When forced to do math that they are not prepared to understand due to development, there is a significant risk of stress induced symptoms, which teachers, parents, psychologists, and pediatricians have reported,⁵⁶ as well as a loss of aptitude for and enjoyment of mathematics.

I concur with child psychologist Dr. Megan Koschnick⁵⁷ regarding this math standard:

Math.Content.K.OA.A.5 Fluently add and subtract within 5

Comment: This standard will require great amounts of teaching time and time for repetitive training instead of teaching kindergarten students basic facts like counting, one to one number correspondence, etc.

I also concur with Ze'ev Wurman, a nationally renowned math standards expert who found the following standards developmentally inappropriate. Those relevant standards and his comments from his written Florida testimony⁵⁸ are reproduced below

MACC.K.CC.1.1 - Count to 100 by ones and by tens.

Comments: The counting to 100 is unwisely aggressive. As a consequence, in grade 1 it is only extended to 120. A more reasonable sequence would be to count to 20 in Kindergarten and to 100 in grade 1.

IMACC.K.CC.1.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

Comments: Unwisely aggressive for numbers up to 100. A limit of 20 would be more appropriate.

MACC.K.G.1.1 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) -Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

Comments: Inappropriate for 3D shapes, and unnecessary for 2D shapes beyond rectangles (or even just squares).

⁵⁶ <http://dianeravitch.net/2013/10/13/dr-joseph-ricciotti-how-ccss-runs-kindergarten/>

⁵⁷ <https://www.youtube.com/watch?v=Ob1lmYIZo8feature=youtu.be>

⁵⁸ <http://www.flstopcccoalition.org/files/30249703-41D5-4AD3-A4D5-53949BCAD7C1--A5E7M7D-3636-4FED-BA2C-3BA591684393/1-math-complete.pdf?file=10162013085909>

MACC.K.G.1.2 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) - Correctly name shapes regardless of their orientations or overall size.

Comments: Inappropriate for 3D shapes, and unnecessary for 2D shapes beyond rectangles (or even just squares).

MACC.K.G.1.3 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) - Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

Comments: Inappropriate. Children at this age can intuit the difference between 2D and 3D but many have difficult time to verbalize it and/or visualize it.

MACC.K.G.2.4 Analyze, compare, create, and compose shapes - Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).

Comments: Inappropriate and unnecessarily demanding.

MACC.K.G.2.6 Analyze, compare, create, and compose shapes - Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?"

Comments: Inappropriate and unnecessarily demanding. Grade 2 standard in Singapore.

MACC.K.MD.1.2 Describe and compare measurable attributes - Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.

Comments: Inappropriate and unnecessarily demanding. Grade 2 standard in Singapore.

MACC.K.OA.1.3 Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from - Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

Comments: Recording by equations and number sentences is inappropriate.

MACC.K.OA.1.4 Understand addition as putting together and adding to, and understand subtraction taking apart and taking from - For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

Comments: Borders on educationally inappropriate, particularly the recording by equation or number sentence.

MACC.1.G.1.2 Reason with shapes and their attributes - Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

Comments: Premature and inappropriate. Grade 2 standard in Singapore.

MACC.1.G.1.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Comments: Probably premature, certainly marginal. Unnecessarily aggressive.

MACC.1.MD.1.1 Measure lengths indirectly and by iterating length units - Order three objects by length; compare the lengths of two objects indirectly by using a third object.

Comments: Transitive (indirect) comparison is premature and inappropriate.

MACC.1.MD.2.3 Tell and write time - Tell and write time in hours and half-hours using analog and digital clocks.

Comments: Missing reference to am/pm.

MACC.1.NBT.1.1 Extend the counting sequence - Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Comments: Should be to 100. The wrong-headed requirement of 100 in Kindergarten forced this senseless "120" value here.

MACC.1.NBT.3.4 Place value understanding and properties of operations to add and subtract - Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

Comments: Ill-defined standard open to multiple interpretations that sends mixed signals. Unclear what those "strategies based on place value, properties of operations, and/or the relationship between addition and subtraction" are. Further, if a "written method" (whatever it is) is known, why the need for those strategies? Finally, no reason to limit to a two-digit number and one-digit number if one truly expects understanding that in "adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten."

MACC.1.OA.3.6 Add and subtract within 20 - Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g. $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g. knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Comments: Insists on pedagogy that is appropriate for mental math but inappropriate, awkward, and constraining for written math. This standard belongs to Kindergarten. Instead, the standards should call on committing addition facts up to 20 to memory in this grade, like Singapore does in grade 1.

MACC.2.MD.3.8 Work with time and money - Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.

Comments: Grade 2 is too late to start with money and build on children natural curiosity and their familiarity with money. It is a grade 1 standard in Singapore. In grade 2 it should include "combinations of dollar bills, quarters, dimes, nickels, and pennies" like Singapore grade 2 does.

English Language Arts Standards

I concur with the concerns of child psychologist Dr. Megan Koschnick⁵⁹ regarding this set of English standards and sub-standards and offer my own comments:

CCSS.ELA-Literacy.SL.K.1 Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.

CCSS.ELA-Literacy.SL.K.1a Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).

CCSS.ELA-Literacy.SL.K.1b Continue a conversation through multiple exchanges.

Comment: Asking children this young to behave like little adult corporate board members is completely inappropriate, especially when many adults have not mastered these non-cognitive workforce based competencies. (Effrem)

CCSS.ELA-Literacy.SL.L.1b Build on others' talk in conversations by responding to the comments of others through multiple exchanges.

Comment: This has the same problem as the set of standards mentioned just above.

I also concur with the developmental concerns of Dr. Sandra Stotsky who raised concerns about the following standards and benchmarks and whose comments I reproduce here, as well as note my own:

CCSS.ELA-Literacy.L.K.4b Use the most frequently occurring inflections and affixes (e.g., -ed, -s, re-, un-, pre-, -ful, -less) as a clue to the meaning of an unknown word.

Comment: Dr. Stotsky rightly points out that kindergarten students especially would not be able to achieve this benchmark because they are not reading yet and because they do not learn word meaning from affixes, but rather by context.

LACC.K.RL.2.4 Ask and answer questions about unknown words in a text.

Comment: How do you compel a kindergartner to ask a question about an unknown word? (Stotsky)

LACC.1.RL.2.5 Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.

Comment: In grade 1? (Stotsky) First grade students have not been exposed to that many text types as they are still learning to read. (Effrem)

LACC.3.RL.2.6 Distinguish their own point of view from that of the narrator or those of the characters.

Comment: This is extraordinarily subjective and would be difficult for third grade students to understand, much less fulfill. (Effrem)

LACC.2.RI.3.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

⁵⁹ <https://www.youtube.com/watch?v=vrQbJlnVZo&feature=youtu.be>

Comment: This is not a standard, and it is not an activity for second graders. (Stotsky) Children at this age would not have this type of knowledge to be able to carry this out and would be unnecessarily stressed if forced to do so. (Effrem)

LACC.2.RI.3.8 Describe how reasons support specific points the author makes in a text.

Comment: Doesn't make sense. Describe HOW reasons support something? This is metalinguistic, not for grade 2 (Stotsky)

ACC.3.RI.3.7 Description: Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).

Comment: This is inappropriate in grade 3. They should be well past looking at a story's illustrations for information by now (for a test). (Stotsky)

LACC.910.RI.1.3 Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.

Comment: Dr. Stotsky notes that this is "a standard that most grade 9 students can't do."

I also concur with Professor Joanna Yatvin, an adjunct professor and supervisor of student teachers at the Portland State University Graduate School of Education, Portland, Ore., and is a past president of the National Council of Teachers of English (NCTE). She had numerous concerns regarding the lack of developmental appropriateness of several English standards:⁶⁹

RI.4.4 - Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).

Comment: "I can't help wondering how 9- and 10-year-olds are supposed to do their "determining." Competent, engaged readers of any age do not stop to puzzle out unknown words in a text. Mostly, they rely on the surrounding context to explain them. But, if that doesn't work, they skip them, figuring that some-where down the page they will be made clear."

RI.5.5 Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.

Comment: "For 5th graders, this standard would be even more difficult to meet than the previous one because it asks them to carry out two different operations on two or more texts that almost certainly differ in content, style, and organization."

L.K.1 (When speaking) Produce and expand complete sentences in shared language activities.

Comment: "Most of the kindergartners I know have no idea what the term "complete sentence" means. Children and adults commonly speak short phrases and single words to each other. I can't imagine any kindergarten teacher insisting during a group language activity that children speak in "complete sentences" or that they "expand" their sentences. Those directions would in all likelihood end the activity quickly as most children fall silent."

⁶⁹ Joanna Yatvin - Warning: The Common Core standards may be harmful to children – Phi Delta Kappan, March 2013

Appendix B - Psychologically Based/Socioemotional/Sociocultural Standards

CCSS.ELA-Literacy.RL.K.10 Actively engage in group reading activities with purpose and understanding.

Comment: This standard requires a subjective psychological assessment on the part of the teacher to know if a child is reading with purpose and understanding. Purpose and understanding are both subjective terms.

ELA Literacy.L.3.5c Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g. knew, believe, suspected, heard, wondered)

Comment: This requires abstract thinking and knowing children's state of mind, others' states of mind and applying it to the meanings of various words. According to Piaget, children are not really capable of abstract thinking until eleven or twelve years of age. Knowing states of mind is quite a subjective endeavor at any age.

CCSS.ELA-Literacy.W.2.3 Write narratives, in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.

Comment: Admitted by Nancy Orme of Anchorage School District to correspond to socioemotional learning standards for "Self-Awareness" that require students to "demonstrate awareness of their emotions;" "recognize and label emotions/feelings;" and "describe their emotions and feelings and the situations that cause them (triggers)."⁶¹

CCSS.ELA-Literacy.SL.2.4 - Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

Comment: This is another standard that deals with subjective feelings and would fall, as discussed by the Alaskan official above into the socioemotional category.

CCSS.ELA-Literacy.W.3.3b - Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.

Comment: This is the yet another skill that demands subjective discussion of feelings as discussed above.

CCSS.ELA-Literacy.W.3.3d -Provide a sense of closure

Comment: Providing a sense of closure is another subjective effort requiring opinions from both student and teacher.

CCSS.ELA-Literacy.SL.K.1 Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.

Comment: This completely developmentally inappropriate national standard (See Appendix B also) requires multiple subjective and potentially politically correct personal opinions on the part of the teacher, such as who constitutes diverse partners, whether a conversation is collaborative or not, and what constitutes a "kindergarten topic." These personal opinions are likely to be enforced by subjective assessments such as the Common Core aligned curriculum *Voices* discussed above in Kindergarten or the federally funded, federally supervised national tests, PARCC and SBAC for older grades.

⁶¹ Pamela Orme, Anchorage, School District, social studies curriculum coordinator, Social Emotional Learning in Common Core State Standards - <http://www.youtube.com/watch?v=ZZMhn-9SPoA> starting at 3:23.

LACC.910.RL.2.6 Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature

Comment: This national standard will be based on personal opinion and will most likely result in politically correct multiculturalism and cultural equivalence as enforced by the psychosocially based assessments in Common Core aligned in curriculum in younger grades or in federally funded, federally supervised national tests like PARCC and SBAC, or other Common Core aligned national tests for older students.

CCSS.ELA-Literacy.RL.2.2 Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.

Comment: This is extremely subjective with much room for sociopolitical indoctrination depending on the point of view of the teacher or what is expected on the federally funded, federally supervised Common Core aligned national tests.

CCSS.ELA-Literacy.RL.2.9 Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.

Comment: This is another subjective national standard that is vulnerable for politically correct multicultural or culturally equivalent interpretation as discussed for Standard Literacy.RL.2.2.

CCSS.ELA-Literacy.RL.3.2 Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.

Comment: This is another subjective national standard that is vulnerable for politically correct multicultural or culturally equivalent interpretation as discussed for Standard Literacy.RL.2.2.

CCSS.ELA-Literacy.RL.4.9 Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.

Comment: This is another subjective national standard that is vulnerable for politically correct multicultural or culturally equivalent interpretation as discussed for Standard Literacy.RL.2.2.

CCSS.ELA-Literacy.RL.5.2 Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.

Comment: This national standard, enforced by the federally funded, federally supervised national tests, again calls for personal opinion that is likely to be open to politically correct interpretation.

CCSS.ELA-Literacy.RL.5.7 Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).

Comment: Aside from the fact that there is no guidance given for how to choose the multimedia elements in this national standard, the interpretation of "meaning, tone, and beauty" is entirely subjective and requires personal opinion on the part of the student and teacher that is open to politically correct interpretation enforced by the federally funded, federally supervised national tests like PARCC, which is still under consideration by the state of Florida, and SBAC.

CCSS.ELA-Literacy.CCRA.W.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Comment: This standard has been acknowledged by an educator based on criteria from the Collaborative for Academic Social and Emotional Learning (CASEL) to be a psychosocial skill that teaches "Self-Awareness/Management" and "focuses on identifying and recognizing emotions; self-efficacy; control of oneself; self-motivation and discipline; goal setting; and organizational skills." Are parents sending their children to school to be psychologically trained or to be educated? The Common Core standards are portrayed to be all about academic rigor, not about subjective, psychosocial skills.

CCSS.ELA-Literacy.CCRA.L.3 - Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Comment: This standard has been acknowledged by an educator based on criteria from the Collaborative for Academic Social and Emotional Learning to be a psychosocial skill teaching "Social Awareness; empathy; difference recognition; and respect for others." It is not the job of government schools using national standards to set the norms for and to do this psychological training, and certainly not without a frank discussion with parents and consent.

CCSS.ELA-Literacy.RL.7.9 Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.

Comment: This assumes that the student has had adequate teaching in history to be able to understand the difference between history and historical fiction, which may or may not have been received at this level and may or may not have been received in an English class. Much of this is subjective personal opinion open to interpretation. Because the testing is so high stakes, teachers and districts will most likely choose curriculum that matches the federal model curriculum, which Florida has not rejected; the Common Core text exemplars, which districts may still use even after the State Board of Education's decision; and the federally funded and supervised national tests.

LACC.910.RL.3.7 Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's Landscape with the Fall of Icarus)

Comment: This standard is extremely subjective with no criteria for doing this analysis, leaving issues open to the whim of the sociocultural views of what is required by the teacher or on the federally funded, federally supervised Common Core aligned national tests like PARCC and SBAC.

LACC.910.RL.3.9 Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and concepts.

Comment: Not only is this incoherent as an English standard, but having the students “analyze related themes and concepts” without any guidance again leaves a wide opening for politically correct interpretation and direction based on the federally funded and supervised national Common Core aligned assessments like PARCC that and Florida continues to consider and SBAC or other national tests like ACT which admits plans to do “assessment of behavioral skills.” For example, model curriculum for the Gettysburg Address requires teachers to teach that seminal document by “cold reading,” meaning without context in order to “level the playing field.”⁶²

LACC.1112.RL.1.3 Analyze the impact of the author’s choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).

Comment: Requiring students to “analyze the impact” calls for a personal opinion that is subject to what the teacher wants or will be taught to the federal model curriculum for PARCC or SBAC or to whatever national test aligned to the Common Core tests is chosen.

LACC.1112.RL.2.4 Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (include Shakespeare as well as other authors.)

Comment: According to nationally renowned English standards expert, Dr. Sandra Stotsky, “Here again, we are dealing with personal response. First, students are to determine word meanings in a text. Then they are to analyze their personal responses to specific words in the text, with (for some unknown reason) attention to words with multiple meanings. Why Shakespeare is to be included, we also don’t know.”⁶³ This is another very subjective standard that requires personal responses. How is a student to know what the standard is for “fresh, engaging, or beautiful”?

LACC.1112.RL.2.5 Analyze how an author’s choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.

Comment: This is another subjective standard calling for interpretation of the author’s personal choice and opinion and the personal opinion of the reader, again open to politically correct opinion of the curriculum or what will be on the national tests.

LACC.1112.RL.1.1 Description: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

Comment: This so-called standard being imposed on Florida and 44 other states requires personal opinion from both the student and the teacher. The criteria for “strong and thorough” textual evidence will be determined by the federally funded, federally supervised national tests, PARCC and SBAC, the former of which Florida is still considering.

⁶² See http://www.washingtonpost.com/blogs/answer-sheet/post/teacher-ops-maddening-day-working-with-the-common-core/2012/03/15/310A61WUS_blog.html

⁶³ See Dr. Stotsky’s full comments for Florida’s Common Core standards at <http://www.flstopcorrelation.org/files/362497D3-41D7-4AD3-AD5-539482CAB7C1-8F365081-6D68-45DC-A6F5-B05E63389795/comments-on-florida-ela-standards-3.pdf?ic=10162013085307>, p. 42

LACC.1.1.12.RI.2.5 Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.

Comment: The only way to determine the “effectiveness of the structure” and whether that structure is “clear, convincing, and engaging” is by subjective personal opinion. The decision about whether a student has adequately carried out this national standard will be by the federally funded, federally supervised national test like PARCC or SBAC or some other national test like ACT plans to do “behavioral assessment.”

LACC.1.1.12.RI.2.6 Determine an author’s point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.

Comment: This national standard requires more personal opinion, the interpretation of which will be enforced by federally funded, federally supervised national tests and federally funded model curriculum and even the official text exemplars of the Common Core standards that districts are still free to use, even though the State Board of Education no longer requires their use statewide.

CCSS.ELA-Literacy.RH.6-8.2 - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

Comment: This is subjective and requires information a student may or may not receive in an English class plus the interpretation of the teacher who must teach to the federally funded and supervised national tests and may still use the Common Core official text exemplars or the federally funded model curriculum that is accompanying the federally funded, federally supervised national tests, PARCC and SBAC, the former of which is still under consideration in Florida.

CCSS.ELA-Literacy.RH.6-8.6 - Identify aspects of a text that reveal an author’s point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).

Comment: How a student will accomplish this national standard without subjective, personal opinion on their part or that of the teacher, who may be teaching to scripted curriculum, such as the SpringBoard curriculum described above that is open to politically correct interpretation, is not easily discernible.

CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.

Comment: Admitted by an educator based on CASEL criteria to be a psychosocial skill for “Responsible Decision Making” that “includes problem identification and problem solving; evaluation and reflection; personal, social, and ethical responsibility.” This is also admitted by a US Department of Education to be a “non-cognitive,” “21st Century” skill. So, if a student fails the questions related to this subjective national standard on a federally funded, federally supervised national test such as PARCC, which is still under consideration in Florida, or some other national test like ACT that will be doing “behavioral assessment,” will that data in their permanent data file to be seen by employers and colleges and who knows who else show that they are not personally, socially, and ethically “responsible”?



THE CALIFORNIA STATE UNIVERSITY



THE UNIVERSITY OF CALIFORNIA



CALIFORNIA COMMUNITY COLLEGES



August 29, 2014

Mike Kirst, President
California State Board of Education
1430 N Street
Sacramento, California 95814

Dear Dr. Kirst and Board members:

With the new school year underway, we want to express the support of California's higher education segments for the implementation of the Common Core State Standards. We believe California's implementation of the Common Core standards and aligned assessments has the potential to dramatically improve college readiness and help close the preparation gap that exists for California students. Moreover, we are optimistic for the transforming promise of these new standards when more students graduate having mastered grade level standards and when teachers, students and parents are given clear and consistent messages about readiness for success in higher education and the workforce.

The Common Core standards provide teachers and districts a roadmap to developing courses that cultivate the deep understandings required for college preparation. In concert with this transition, the a-g requirements for CSU and UC admission, specifically areas 'b' (English) and 'c' (Mathematics), have been updated to align with the Common Core standards and the message is being transmitted to schools, parents and students.

The partnership California has built over the last 10 years to implement the Early Assessment Program has helped to define the national effort to measure college and career readiness in the 11th grade, and it places California in an optimal position to successfully transition to the new system of standards and assessments. Appointed faculty from the three public segments are participants in teams working on the performance standards for the Smarter Balanced 11th grade assessment and many more faculty will have the opportunity to participate in an online second level review process.

Our collaborative efforts will help ensure that the tests measure standards that our K-12 and higher education systems all agree address appropriate expectations for the preparation of high school graduates who are ready to succeed. It is critical that students arrive at college better

The California State University
Office of the Chancellor
401 Golden Shore
Long Beach, California 90802

The University of California
Office of the President
1111 Franklin Street, 12th Floor
Oakland, California 94607

California Community Colleges
Office of the Chancellor
1107 Q Street, Suite 4554
Sacramento, California 95814

Independent Colleges and Universities 1100 Eleventh Street, Suite 10, Sacramento, California 95814

EXHIBIT 12
Deposited: DC Bol E
Date: 11/11/14 Doc# 132118

Preparing students to be college and career ready

California is transitioning to a new set of expectations for our students and a new system for measuring growth. The Common Core standards in English language arts and mathematics are internationally benchmarked and focused on supporting students to be ready for the 21st century. The Smarter Balanced assessments are an important tool in ensuring students are meeting expectations set by the standards. We believe that these investments will strengthen the educational program provided to our students, but successful implementation will require sustained support and collaboration of the entire community.

Common Core academic standards will help ensure students graduate college and career ready

The state's new standards will benefit students by having fewer, clearer, and deeper standards and require a greater use of analysis, critical thinking and real-world skills. They are also internationally benchmarked and line up with the skills that all students need to prepare for a global 21st century economy that's increasingly competitive and always evolving. As an example, rather than reciting facts from a reading passage, students are asked to show deeper understanding, such as examining the theme of the passage, using information from text to explain their answer. Local districts and teachers have been reviewing and updating how they teach the new standards to students over the last few years, and are earnestly engaged in exposing students to this new approach to learning.

The Smarter Balanced assessments were developed to measure how well students are learning these deeper learning skills

The new Smarter Balanced tests are designed to help educators and parents know if students are progressing and understanding what they are supposed to be learning. These tests move away from a fill in the bubble format to a technology-based format allowing for a better measure of the knowledge and skills students are acquiring through the use of short answer, longer responses and performance tasks, in addition to multiple choice questions. The assessments will also be adaptive, which means the difficulty of subsequent questions will be based on the response to the previous question. This allows the test to more accurately and efficiently reflect what students know. It is important to make sure students are on the path towards graduating college and career ready and more importantly to identify any challenges early.

We all have a stake in the success of the new assessment system so the work over the next several months will take our ongoing support and commitment

Our students have a real opportunity to reach new levels of success during their K-12 education career as the assessment is refined and Common Core is fully implemented. There's an important need for policymakers, district leaders, teachers, parents, business leaders and community members as this transition continues, which is to understand the implementation process and maintain reasonable expectations. The administration of these new assessments in Spring 2014 will be "testing the test" as well as the capacity of districts, and will provide an opportunity for issues that arise to be addressed before the test goes live in the spring of 2015. While we recognize the hard work that needs to be done by teachers, district leaders, and state policymakers to make Common Core implementation successful, we believe that the investments and hard work will pay off for our students in the long run in preparing them for college and career.

A Better Way, Inc.
Active Advisors
ActiveMedia
Aim High
Akadus Inc.
Alameda County Early Care and Education
Planning Council
Alameda County Foster Youth Alliance
ALearn
Alliance San Diego
American Association of University Women –
California
American Association of University Women Half
Moon Bay Branch
American Indian Families Partnership
American Youth Rugby Union
APLUS+ the Association of Personalized
Learning Schools & Services
Asian Business Association of Los Angeles
Asian Business Association of San Diego
Association of California School Administrators
Association of Independent Colleges and
Universities
Bay Area Central American Chamber of
Commerce
Bay Area Council
BayBio
Bernard E. & Aiba Withkin Charitable Foundation
Big Brothers Big Sisters of Santa Cruz County
Biotechnology Institute
Black Parallel School Board
Bobbot and Riles
Boys & Girls Club of San Dieguito
Butte County Child Abuse Prevention Council
Butte County Superintendent of Schools Tim
Taylor
CA State Conference-NAACP
California Alliance for Arts Education
California Alliance of African American
Educators
California Alliance of Child and Family Services
California Asian Pacific Chamber of Commerce
California Association for the Gifted
California Biomedical Research Association
California Black Chamber of Commerce
California Black Health Network
California Child Care Coordinators Association

California Competes: Higher Education for a
Strong Economy
California Council of Churches IMPACT
California Council on Youth Relations
California County Superintendents Educational
Services Association
California Education Partners
California Hispanic Chambers of Commerce
California League of Schools
California League of United Latin American
Citizens
California Math Council
California Police Activities League
California School Boards Association
California School Business Officials
California School Nurses Organization
California School-Age Consortium
California School-Based Health Alliance
California Science Teachers Association
California Small Business Association
California Society for Biomedical Research
California State PTA
California State Student Association Executive
Director Miles Nevin
California STEM Learning Network
Cambridge Community Center
Campaign for College Opportunity
Campus Kids Connection, Inc.
Capacity Builders, Inc.
Caulder Lamm Alliance for Children, Inc.
CCROPP
Center for Ecoliteracy
Center for Leadership, Equity, and Research
(CLEAR)
Center for Strategic Community Innovation
Central California Children's Institute
Central Valley Asian-Pacific Chamber of
Commerce
Centro La Familia Advocacy Services, Inc.
Chamber of Commerce Mountain View
CHI-California Healthcare Institute
Child Abuse Prevention Council of Contra Costa
County
Child Care Links
Child Care Partnership Council, San Mateo
County
Childhood Injury Prevention Network - Bay Area

Children Now
Children's Learning Cottage
Children's Nurturing Project
Clovis Family Literacy
Coalition for Adequate School Housing
College-Ready Promise
Colusa County Superintendent of Schools Kathy Northington
Community Child Care Council (4C's) of Alameda County
Community Family Services
Community Investment Strategies
Contra Costa Child Care Council
Contra Costa County Superintendent of Schools Joseph Ovick
Contra Costa Economic Partnership
CORA
Council of Asian Pacific Islanders Together for Advocacy and Leadership (CAPITAL)
Cow Hollow School
Creative Child Care, Inc.
David B. and Edward C. Goodstein Foundation
Davis Street Family Resource Center
Del Norte County Superintendent of Schools Don Olson
Department of Child Development and Family Studies, CCSF
Dirk and Charlene Kabcenell Foundation
Early Childhood Mental Health Program
East Bay Asian Youth Center
East Bay Consortium of Educational Institutions, Inc.
East Bay Economic Development Alliance
East Bay Leadership Council
Easter Seals California
Educare of Silicon Valley
Education Trust—West
Educators 4 Excellence
EMC Research
Every Neighborhood Partnership
Extended Child Care Coalition
Fall Presents, Inc.
Families in Good Health
Families in Schools
Family Connections
Family Resource & Referral Center
Family Service Association

Fathers and Families of San Joaquin
Fight Crime: Invest in Kids
Financial Architects Partners
First 5 Alameda County
First 5 Association of California
First 5 Fresno County
First 5 Marin County
First 5 San Bernardino Children & Families Commission
First 5 San Luis Obispo
First 5 Santa Clara
First 5 Yolo County
First Place for Youth
Focus Forward
Fremont Family Resource Center
Full Circle Fund
Game Theory Academy
George Stafford & Associates
Girls Incorporated of Alameda County
Girls to Women
Give for a Smile
GLOW Foundation
Good Samaritan Family Resource Center
Great Oakland Public Schools Leadership Center
Green Dot Schools
Guatemalan American Chamber of Commerce of San Francisco
Half Moon Bay Brewing Company
Half Moon Bay Coastside Chamber of Commerce
Harbour Consulting
Healing Hearts "One at a Time"
Healthier Kids Foundation
Healthy Cities Tutoring
High Thrive
Hispanic Chamber of Commerce of San Francisco
Hispanic Chamber of Commerce of Contra Costa County
Hispanic Foundation of Silicon Valley
Humboldt County Superintendent of Schools Garry Eagles
Inn at the Mavericks
Inner-City Arts
Jeffrey Scott Agency
JH Gardner Consulting
Jillybeads 4 Justice
John Burton Foundation
Jumpstart Northern California

Kern County Superintendent of Schools Dr.
Christine Lizardi Frazier
Kidango
Kids in Common
Kids' Own Wisdom
KinderLoop
Kiva
Krause Center for Innovation
Latin American & Caribbean Business Chamber
of Commerce
Latino Community Foundation
League of Women Voters, California
Legacy 4 Kids
Legacy for Kids Magazine
Legal Advocates for Children & Youth
Lemonade Creative Consulting
Leonetti/O'Connell Family Foundation
Lincoln Child Center
Local Early Education Planning Council of Santa
Clara County
Los Angeles Area Chamber of Commerce
Los Angeles Urban League
LP Learning
MACLA/Movimiento de Arte y Cultura Latino
Americana
Madera Coalition
MALDEF
Martinez Early Childhood Center, Inc
Mary Ann Dewan, Ph.D., Interim Superintendent,
Santo Clara County Office of Education
McLeod-Grant Advisors
Mendocino County Superintendent of Schools
Paul A. Tichinin
MindSpark
Miss Allyson's Preschool
Mission: Readiness - Military Leaders For Kids
Modoc County Superintendent of Schools Gary L.
Jones
Monterey Peninsula Chamber of Commerce
Moreno Valley Unified School District
Morgan Family Foundation
Mountain View-Los Altos Challenge Team
MOUSE Squad of CA (MSCA) Student Tech
Mt. Diablo Community Child Care Advocates
Napa County Superintendent of Schools Barbara
Nemko, Ph.D.
National Council of La Raza

National Laboratory for Education Transformation
Nevada County Superintendent of Schools Holly
Hermansen
Nicaraguan American Chamber of Commerce
Northern California
North Bay Leadership Council
Optimal Solutions Consulting
Our Family Coalition
Pacific Community Solutions, Inc.
Palm Desert Chamber of Commerce
Para Los Niños
Parent Institute for Quality Education
Parent Revolution
Partnership for Children and Youth
Peninsula Family Service
Pittsburg Chamber of Commerce
Pretend City Children's Museum
Professional Association for Childhood Education
Professional Engineers in California Government
(PECG)
Public Advocates
Public Profit
Pyramid Alternatives
RDP Consulting
Reach Potential Movement
Reading and Beyond
Reading Bonanza in the Park
ReadyNation/America's Edge
Richmond Community Foundation
Riverside County Superintendent of Schools Kenn
Young
Rogers Family Foundation
Rotary Club of Mountain View
RYSE Youth Center
Sacramento Asian Pacific Chamber of Commerce
Sacramento County Superintendent of Schools
Dave Gordon
Sacramento Hispanic Chamber of Commerce
Salvadoran American Chamber of Commerce, San
Francisco and Bay Area
San Diego NAACP
San Bernardino County Local Child Care Planning
Council
San Bernardino County Superintendent of Schools
Dr. Gary Thomas
San Carlos Chamber of Commerce
San Diego County Superintendent of Schools Dr.

Randolph E. Ward
San Diego Urban League
San Francisco Chamber of Commerce
San Joaquin Drug
San Jose Silicon Valley Chamber of Commerce
San Mateo County Economic Development
Association (SAMCEDA)
San Mateo County School Boards Association
San Mateo County Superintendent of Schools Anne
Campbell
Santa Barbara County Superintendent of Schools
William J. Cirone
Santa Clara Chamber of Commerce
Santa Clara County Youth Task Force
Santa Cruz County Superintendent of Schools
Michael C. Watkins
Schaffer & Combs, LLC
Sententia Vera, Cultural Spanish Communication
Sequoia Union High School District
Silicon Valley Leadership Group
Social Transactions, LLC
Solano County Superintendent of Schools Jay Speck
Sonoma County Superintendent of Schools Steven
D. Herrington, PhD
Speak to Children
St. Philip's Episcopal Church
Sunset Neighborhood Beacon Center
Superintendent (Interim) Sara Noguchi,
Sacramento City Unified School District
Superintendent Chris Steinhauser, Long Beach
Unified School District
Superintendent Cindy Marten, San Diego Unified
School District
Superintendent John Deasy, Los Angeles Unified
School District
Superintendent Julie A. Vitale, Ed.D., Romoland
School District
Superintendent Michael Hanson, Fresno Unified
School District
Superintendent Richard A. Carranza, San Francisco
Unified School District
Superintendent Steve Kennedy, Ed.D., Menifee
Union School District
Superintendent Steve Ladd, Elk Grove Unified
School District
SWAG Productions
Sweet Peas Preschool

Teach Plus
Teach Plus Los Angeles
TechNet
Teen Success, Inc.
Teen Talk Sexuality Education
The Carol and James Collins Foundation
The College-Ready Promise
The LA Trust for Children's Health
The Little Mud Puddle's Learning Center
The Partnership for Los Angeles Schools
Think Together
Third Street Community Center
ThriveSF
Tikkun Consulting
Time4 Partner Marketing
TOT Industries
Total Impact Advisors
Tuolumne County Superintendent of Schools Joseph
A. Silva
United Friends of the Children
United Way California Capital Region
United Way of Fresno County
United Way of Greater Los Angeles
United Way of Merced County
United Way of the Bay Area
United Ways of California
UPforEd - San Diego United Parents for Education
Vacaville Police Activities League
Valley Springs Youth
Violence Prevention Coalition
Vision to Learn
Viva Strategy and Communications
Watsonville Police Activities League
Waypoint Wealth Partners
West Orange County Regional Chamber of
Commerce
WestCare California, Inc.
Yolo County Children's Alliance
Youth Advocate Network for Sustainable
Communities (YANSC)
Youth Alliance

Mr. President, Members of the Board,

In my opening statement I want to address three key points.

First is that the quality of expectations of the common core mathematics is incomparable with, and lagging behind, that of high achieving nations. This comes across from every academic study that has been done of them since their publication in 2010 except one. The only study that DID find Common Core mathematics comparable to that of high achieving nations, done by Prof. William Schmidt, is based on flawed coding of Common Core and on misrepresentation of their organization and coherence that borders on scientific malpractice. This has been documented in a report that I authored for the Pioneer Institute and that is attached to my testimony.

My second point is that the Common Core delays early algebra taking by grade 8 that has been supported by the Presidential National Mathematics Advisory Panel, by civil rights leaders, and by our previous California Standards. Indeed, early algebra taking has been supported by the progenitors of the Common Core itself just a year prior to their release and has been used to justify its creation. Yet, inexplicably, Common Core eventually pushed Algebra 1 to the high school. The evidence I submitted to this board clearly shows that minority students and students from challenging backgrounds were the prime beneficiaries of early Algebra taking over the last 15 years, and their progress and success over those years far exceeded the success of white students, closing the gap the way it should be closed – by raising the bottom rather than squashing the top.

My final point is that the California Academic Content Standards Commission recognized this deficiency in the rigor of Common Core in 2010, and added Algebra 1 as an alternative set of standards for grade 8 in California and their recommendation was adopted by the State Board of Education. Two and a half years later the State Board of Education removed this alternate set of Algebra 1 standards for grade 8 under the guise of technical changes that were supposed to maintain “[t]he rigor of the state common core academic content standards in mathematics.” The resulting California Common Core standards thus became delayed by at least one full year from the previous 1997 California Standards, thus retarding the progress of California students.

California Board of Education had expressed the sentiment that acceleration should continue to be provided to interested and prepared students, to enable them to take early Algebra. Yet the State Board did not detail or fund such acceleration in middle schools across the state, thus effectively leaving acceleration to students’ families. Clearly, this mode of acceleration paid by students’ families will result in drastic reduction in acceleration of minority students and disadvantaged students. To aggravate this situation, the new 2013 California Mathematics Framework as approved by the State Board directly and explicitly exhorts educators that acceleration “should not be rushed,” that acceleration in the middle grades “require[s] solid evidence of mastery of prerequisite” Common Core standards (why only at the middle school? Don’t high school students need mastery too before moving ahead?) and that all Common Core standards, no matter how minor, need to be included in the accelerated programs as if the standards were given from Mount Sinai. The Framework then exhorts not to sacrifice attention to

EXHIBIT 13
Deponent: ACBoE
Date: 11/17/14 Rptr: 12/11/14

the quite meaningless and content-empty Standards for Mathematical Practice. In other words, the Framework seems to intentionally discourage schools and districts from acceleration. And indeed, all across the state we start to hear about early algebra enrollment dropping from 60, 70, or even more percent of the cohort to as low as 10 percent or less. This is not an aberration – this is a direct and correct reading of the intent of the 2013 California mathematics Framework and Standards.

Standards Relating to the Number System and Algebra

1997 California Standards Grade 7

Common Core Standards Grade 8

<ul style="list-style-type: none"> • Students know the properties of, and compute with, rational numbers expressed in a variety of forms <ul style="list-style-type: none"> – scientific notation; <u>conversion between fractional forms; irrational numbers; <u>compound interest.</u></u> • Students use exponents, powers, and roots and use exponents in working with fractions <ul style="list-style-type: none"> – radicals & exponents; fractions with exponents. • Students express quantitative relationships by using algebraic terminology, expressions, equations, inequalities, and graphs <ul style="list-style-type: none"> – <u>similarly expressions; represent relationships graphically.</u> • Students interpret and evaluate expressions involving integer powers and simple roots <ul style="list-style-type: none"> – <u>multiply and divide monomials with exponents; positive & negative exponents.</u> • Students graph and interpret linear and some nonlinear functions <ul style="list-style-type: none"> – Graph quadratic and cubic functions; plot linear functions; linear slope; line fitting to data. • Students solve simple linear equations and inequalities over the rational numbers <ul style="list-style-type: none"> – solve two-step linear equations and inequalities; solve problems. 	<ul style="list-style-type: none"> • Know that there are numbers that are not rational, and approximate them by rational numbers. <ul style="list-style-type: none"> – irrational numbers. • Work with radicals and integer exponents. <ul style="list-style-type: none"> – radical & exponents; scientific notation; plot linear functions; linear slope; positive & negative exponents. • Analyze and solve linear equations and pairs of simultaneous linear equations <ul style="list-style-type: none"> – solve linear equations; <u>solve systems of two linear equations.</u> • Define, evaluate, and compare functions. <ul style="list-style-type: none"> – function as input/output relationship; linear relation as a function; represent functional relationships graphically. • Use functions to model relationships between quantities. <ul style="list-style-type: none"> – line fitting to data.
--	---

Legend
 PURPLE: Present in both sets of standards.
 BLUE: Present in one set only.
 UNDERLINED BLUE: Key content.

A. M. EXHIBIT 14
 Dependent DC 905 E
 1/1/10