The Wrong Bet

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Why Common Curriculum and Standards Won't Help

Education is what remains after one has forgotten what one has learned in school.

-Albert Einstein

In the books lies the House of Gold; in the books lies the Beautiful Wife you desire.

-Song Dynasty Emperor Zhao Heng

une 2, 2010, was a symbolically big day for American education. From this day on, the United States of America theoretically and technically ended its history of no national curriculum, for on this day, a national curriculum was born with the official launch of the Common Core State Standards (Common Core) by the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO). The press conference was held at Peachtree Ridge High School in Suwanee, Georgia, a nice suburb of Atlanta. Why this newly built popular suburban school with little poverty and excellent facilities was picked as the launch site is unknown, but the cast of participants was masterfully chosen to represent the broad range of support for the

Common Core: Governors Sonny Perdue (Georgia) and Jack Markell (Delaware) for political leaders; state education chiefs Steven Paine (West Virginia) and Eric Smith (Florida) for statelevel education leaders; Randi Weingarten, president of the American Federation of Teachers (AFT), and Lily Eskelsen, vice president of the National Education Association (NEA), for teacher unions; Leah Luke, Wisconsin Teacher of the Year, for teachers; Andres Alonso, CEO of Baltimore Public Schools, for local education leaders; Byron Garrett, CEO of the national Parent-Teacher Association (PTA), for parents; and Steve Rohleder, an executive of consulting firm Accenture, for business (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers, 2010).

This selection of participants reflects the political smartness of the proponents of the Common Core. For fear of political resistance that stems from the deep-rooted suspicion of federal encroachment of state rights in education, they have been very careful not to call their initiative "national standards" or "national curriculum" while working very hard to create a national curriculum. They have avoided using any federal funds to develop the standards and repeatedly emphasized the role states have played in the process. "The yearlong process was led by governors and chief state school officers in 48 states, 2 territories and the District of Columbia," stated the press release of the event (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers, 2010). From the very beginning, the initiative has been suggested to be state led and demanded by a broad spectrum of stakeholders, and the participants at the launch event reflected that breadth. In that spirit, the Common Core initiative website features a large collection of videos and statements of support from representatives of virtually all sectors of America.

But the avoidance of "national" in the name of the initiative is merely a thin mask that cannot hide the intention of the initiative to create a national curriculum for the United States, nor can it deny the fact of the involvement of the federal government in helping making them the core of American children's education diet. The fact that 45 states and the District of Columbia have adopted these standards and are pouring a tremendous amount of resources to implement them suggests unequivocally that America has more than embarked on the journey toward a national curriculum. The nearly \$5 billion federal Race to the Top program has without question served to bait many states to adopt the Common Core by making adopting "common standards" a prerequisite for application (U.S. Department of Education, 2009). To reinforce the intention, the U.S. Department of Education required that "a State must have already adopted college- and careerready standards in reading/language arts and mathematics" if a state wished to be relieved of the unrealistic expectations of No Child Left Behind (NCLB) (The White House, 2011).

The Common Core State Standards are not just academic standards. They are quickly evolving into curriculum and assessment. With \$330 million of Race to the Top money, all but five states formed two consortia intended to design common assessments for the Common Core. When developed, such common assessment will no doubt drive the nation's schools to teach to the Common Core. Moreover, with an additional \$15.8 million, the two consortia have announced plans to provide curriculum resources, instructional materials, and professional development for teachers to teach to the Common Core (Gewertz, 2011).

The release of the standards on June 2, 2010, was not a huge news item, judging from the lack of major media coverage of the event, but it sent the majority of American schools on an unprecedented journey—a journey toward a common, almost national, curriculum. It "marks the conclusion of the development of the Common Core State Standards and signals the start of the adoption and implementation process by the states," announced the press release about the June 2 event by NGA and CCSSO (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers, 2010). The journey will be expensive. While

no one knows exactly what the cost will be, "based on a range of state estimates, a reasonable estimate of the total nationwide cost 'would be \$30 billion,'" writes Rachel Sheffield (2011). The Pioneer Institute, a Boston-based think tank, estimated that over seven years, the national implementation of the Common Core to be \$15.8 billion across participating states. "This constitutes a 'mid-range' estimate that only addresses the basic expenditures required for implementation of the new standards" (AccountabilityWorks, 2012, p. 1).

Why is America, a traditionally extremely decentralized education system with some 15,000 school districts and a constitution that delegates the responsibility of education to its 50 states, putting so much resource, at a time of economic recession, into a national curriculum? More important, how could such an effort have garnered so much support in a nation that has long valued local control of education and worked to limit the reach of the federal government?

"To compete successfully in the global economy" is the answer given in the Mission Statement of the Common Core Initiative:

The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy. (Common Core State Standards Initiative, 2011b)

The Common Core standards are purportedly going to make all students ready for college and career in the global economy by addressing three ills that have long plagued American education: equity, quality, and efficiency (Common Core, 2009; Goertz, 2010; Mathis, 2010). "We need standards to

ensure that all students, no matter where they live, are prepared for success in postsecondary education and the workforce. Common standards will help ensure that students are receiving a high quality education consistently, from school to school and state to state" (Common Core State Standards Initiative, 2011a). Common standards are also needed because they "provide a greater opportunity to share experiences and best practices within and across states that will improve our ability to best serve the needs of students" (Common Core State Standards Initiative, 2011a). Furthermore, they make test results across schools in different places more comparable, thus making it easier to hold schools and teachers more accountable for learning (Tienken & Zhao, 2010; Zhao, 2009). Most important, the Common Core standards are supposedly internationally benchmarked so that they embody the highest expectation for students. "The Common Core State Standards have been built from the best and highest state standards in the country. They are evidence-based, aligned with college and work expectations, include rigorous content and skills, and are informed by other top performing countries" (Common Core State Standards Initiative, 2011a).

NATIONAL HOMOGENIZATION

Increased Centralized Prescription of Student Learning

The Common Core State Standards Initiative represents the increasing trend of national homogenization of student learning in the world. The homogenization is achieved through increased national control of what children should learn. Such control is exercised through three interconnected measures: (1) the identification of core subjects, (2) the development of centralized curriculum standards, and (3) the use of high-stakes testing to enforce standards of core academic subjects.

The movement toward more central government control of student learning is evidenced in both traditionally centralized

education systems and traditionally decentralized systems. Roughly speaking, there are two types of educational systems in the world. The first has a central government education authority that prescribes and enforces what students should learn through national or state curriculum and assessment programs. China, Singapore, and Korea are examples of this first type. Most of the world's education systems fall into this category. The second type has no national control of student learning experiences, leaving much of the curriculum decision to local education authorities. The local can be instantiated at the state or provincial level. In some contexts, the local has been defined in an even more granular or grass-roots policy grid that places the determinative decision making at the community or even school level. The United States, Canada, and Australia are traditionally the prime examples of the second category.

While some of the educational systems that have traditionally practiced national centralized curricula have attempted to decentralize parts of their curricula, the proportion remains small and the extent of success uncertain (Zhao, 2009). In comparison, efforts to develop centralized curriculum in traditionally decentralized educational systems are gaining momentum. As a result, the number of decentralized education systems, which was small to begin with, is quickly dwindling.

Australia is a telling example. On December 9, 2010, Australia marked a turning point in its educational history with the endorsement by Australian education ministers of a national curriculum that includes content descriptions for Foundation to Year 10 in English, mathematics, science, and history (McGaw, 2010). To be expanded to include other subjects, the "Australian Curriculum sets out what all young Australians are to be taught, and the expected quality of that learning as they progress through schooling." The rationale behind the Australian Curriculum, according to the Australian Curriculum Assessment and Reporting Authority (ACARA), are similar to that in the United States: equity, efficiency, and quality for all students "to compete successfully in the global economy":

- 1. School and curriculum authorities can collaborate to ensure high quality teaching and learning materials are available for all schools.
- 2. Greater attention can be devoted to equipping young Australians with those skills, knowledge and capabilities necessary to enable them to effectively engage with and prosper in society, compete in a globalised world and thrive in the information-rich workplaces of the future.
- 3. There will be greater consistency for the country's increasingly mobile student and teacher population. (Australian Curriculum Assessment and Reporting Authority, 2010)

Countries that already have a more flexibly defined national curriculum have been working on standards to specify in more detail what students should learn at what grade level. For example, New Zealand, which had a more flexible national curriculum framework, published its national standards in 2010. The national standards "set clear expectations that students need to meet in reading, writing, and mathematics in the first eight years at school" (Ministry of Education [NZ], 2011). They describe specifically what students should know and be able to do at different points of their schooling. And the reason:

National Standards are a tool to help teachers and schools understand the expected levels of achievement at stage/ year-appropriate levels, know how to measure the achievement of each student in relation to the expectations, and to improve teaching and learning for better student learning and progress in all areas of the curriculum. (Ministry of Education [NZ], 2010)

Another example is England. England is in the midst of another round of review of its national curriculum, initially established in 1988 (Department for Education, 2011; Oates, 2010). More specification and focus are what is needed, according to Michael Gove, England's secretary of state for Education. "While other countries have developed coherent national curricula that allow for the steady accumulation of knowledge and conceptual understanding, our National Curriculum has, sadly, lost much of its initial focus," writes Gove in the Foreword of a report on the review of the national curriculum by Tim Oates of Cambridge Assessment (Oates, 2010). "What is crucial is first identifying the crucial concepts and ideas that each year group should learn," he adds.

The objectives of this round of review of the English national curriculum are many, but international comparison and efficiency feature prominently:

- ensure that the content of our National Curriculum compares favourably with the most successful international curricula in the highest performing jurisdictions, reflecting the best collective wisdom we have about how children learn and what they should know;
- set rigorous requirements for pupil attainment, which measure up to those in the highest performing jurisdictions in the world;
- enable parents to understand what their children should be learning throughout their school career and therefore to support their education. (Department for Education, 2011)

In a nutshell, these efforts, if successful, will not only prescribe what students learn, but also when they should learn what. Enforced with high-stakes assessment, either for individual students or for schools, these common standards and curricula in essence push teachers to ration learning to all students (Booher-Jennings, 2006). In the pursuit of efficiency, equity, and national consistency, these standards and curricula essentially homogenize children's learning, serving the same educational diet within a nation.

GLOBAL HOMOGENIZATION: INTERNATIONAL BENCHMARKING

The attempt to homogenize children's learning goes beyond national borders and is becoming global. England's objective to ensure the content of its national curriculum "compares favourably with the most successful international curricula in the highest performing jurisdictions" is a common theme across the various national curriculum and standards efforts. International benchmarking, that is "the alignment of standards, instruction, professional development and assessment to those of the highest-performing countries" (Education Commission of the States [ECS], 2008, p. 5), has become the buzzword among educational reformers around the world. The U.S. Common Core initiative, the Australian Curriculum, and England's National Curriculum review all strive to create standards and curriculum that match the best in the world.

In the United States, the nation's state education policy makers pledged to use international benchmarking as a way to make the "efforts to raise standards, advance teaching quality, and improve low-performing schools" more effective (National Governors Association, Council of Chief State School Officers, & Achieve, Inc., 2008, p. 6). A report jointly released by the National Governors Association (NGA), Council of Chief State School Officers (CCSSO), and Achieve, Inc. called on state leaders to take five actions to ensure a world class education for American students. The No. 1 recommended action is to "upgrade state standards by adopting a common core of internationally benchmarked standards in math and language arts for grades K-12 to ensure that students are equipped with the necessary knowledge and skills to be globally competitive" (National Governors Association, Council of Chief State School Officers, & Achieve, Inc., 2008, p. 24). Writing about the Australian curriculum, Barry McGaw,

chair of the Australian body that oversees the development of its national curriculum, says, "The Australian curriculum has been benchmarked against curricula in high-performing countries to ensure that we expect no less of our students than they do of theirs" (McGaw, 2010).

International benchmarking has effectually the result of developing a globally homogenous learning experience for all students. When the content and standards are aligned across different countries, students learn the same thing at the same time. And when professional development and pedagogy are aligned, teachers are asked to deliver the same content in the same method. When international assessments are applied, nations have even more reason to teach the same thing to their children.

This push toward a globally homogenous education has one obvious rationale: global competition, as argued by the National Center for Education and the Economy (NCEE) in its 2007 report *Tough Choices or Tough Times:*

The best employers the world over will be looking for the most competent, most creative, and most innovative people on the face of the earth and will be willing to pay them top dollar for their services. This will be true not just for top professionals and managers, but up and down the length and breadth of the workforce. Those countries that produce the most important new products and services can capture a premium in world markets that will enable them to pay high wages to their citizens. (The New Commission on the Skills of the American Workforce, 2007)

International assessment programs have added fuel to the global homogenization movement in the new age of globalization by showing the relative standings of different nations. While the International Association for the Evaluation of Educational Achievement (IEA) has been conducting international comparative studies in mathematics and sciences regularly, and literacy and other subjects occasionally, for half a century, the newly developed Programme for International Student Assessment (PISA) by the Organisation for Economic Co-operation and Development (OECD) has come to the scene with even more force. Both IEA's Trends in International Mathematics and Science Study (TIMSS) and OECD's PISA have captured the attention of national and local education leaders, researchers, and the media. Because many view the results of TIMSS and PISA as indicators of national education quality and global competitiveness, TIMSS and PISA are now viewed as the gold standards of education. The relative standing of each nation on these assessments is automatically equated with the quality of education in each nation and consequently the nation's future competitiveness in the global economy. A recent report by OECD makes the direct and explicit connection between PISA scores and economic gains:

A modest goal of having all OECD countries boost their average PISA scores by 25 points over the next 20 years ... implies an aggregate gain of OECD GDP of USD 115 trillion over the lifetime of the generation born in 2010. Bringing all countries up to the average performance of Finland, OECD's best performing education system in PISA, would result in gains in the order of USD 260 trillion. (Hanushek & Woessmann, 2010, p. 6)

It should then come as no surprise that nations want to improve their PISA scores. The best way to improve performance on the PISA is then naturally to align one's curriculum and standards with the top-performing nations on the PISA.

International assessments such as PISA and TIMSS have certainly served as a major motivator for the homogenization of curriculum, observed Professor Geoffrey Howson of the University of Southampton in the case of the English National Curriculum a decade ago, saying that it "was probably expedited by the nation's poor showing in the Second International

Math Study (SIMS) and in similar, smaller, studies undertaken in the 1980s" (Howson, 2001, p. 261). Joel Spring, a prolific education author and professor at the City University of New York, made a similar observation about the role of PISA:

OECD has played a major role in the global standardization of education through its assessment program PISA. By becoming an international standard, PISA has the direct potential for determining the curriculum content in the areas tested, which are mathematics, reading, and science. (Spring, 2008, p. 62)

Moreover, international studies have helped identifying curriculum and standards to align with. Top ranking nations in TIMSS and PISA have been viewed as nations with excellent educational systems that are worth emulating (Common Core, 2009; National Research Council, 1999). A recent report by the National Center for Education and the Economy, entitled *Standing on the Shoulders of Giants: An American Agenda for Education Reform*, called for learning from Canada (Ontario), China (Shanghai), Finland, Japan, and Singapore because they are the world's education giants, at least according to their performance on the PISA (Tucker, 2011). And TIMSS held Singapore, Korea, and Japan as the world's example of educational excellence due to their outstanding showing. The Singaporean math curriculum, in particular, has been the target of alignment by many countries.

The outcome of international benchmarking is inevitably a globally homogenized learning experience for all students. And if all goes as planned by the advocates, students will be taught the same thing at the same pace by the same methods. This is of course a stretch given the diversity of educational systems around the world, but it is certainly a goal of many governments and policy makers. Regardless of the degree to which policy makers can successfully align their own nations' education to top-performing nations on PISA or TIMSS, various governments are working diligently toward the goal that one day all their students will enjoy internationally benchmarked content, be held to internationally benchmarked standards and expectations, and be taught with internationally benchmarked teaching methods. And that is, according to the advocates, a world class education, which will prepare their students "to succeed in the global economy."

PLACING THE BET

The Core Subjects

The efforts to define what students should learn are not a free exercise of governments or well-intentioned policy makers. They have cost—huge cost. It costs money to define and develop curriculum and standards. It costs political and social capital to debate what should be included for what age. Once developed, it costs money and energy to have them adopted and implemented by schools and teachers. It costs to develop assessments and other mechanisms to ensure that schools and teachers teach accordingly, students learn accordingly, and parents provide assistance accordingly. There is also the opportunity cost. When all energy and resources are poured into defining and enforcing the common curriculum and standards, nothing is left to pursue anything else.

But it is not the money, energy, or political and social capital that should be of most concern, although they are so high that they cannot be ignored. The most important is the children's future. Asking a child to devote 12 years of his life to the study of something is akin to placing a bet for his future. It is a promise to the innocent child and his parents that if the prescribed curriculum is mastered, he will have a bright future because he will be ready for college and career and able to succeed in the global economy. What if the bet is misplaced and the promise broken? That cost is unbearable and can never be recovered.

The stakes are high; how good is the bet then?

Before questioning the bet, a description of what exactly the advocates are betting on, that is, what is included in the

internationally benchmarked curriculum and standards, is in order. *Mathematics*, *literacy/reading*, and *science* are the primary subjects most countries have placed their bet on. In the United States, the Common Core State Standards Initiative has put out standards in mathematics and English Language Arts as the core for all students. Science is in the works. In England, "the core subjects of English, mathematics and science will remain subjects within the National Curriculum" (Department for Education, 2011), meaning that the inclusion of these three subjects are not subject to discussion during the review and will form the core of the new national curriculum. The Australian Curriculum pledges to include a variety of subjects but for now includes English, mathematics, science, and history, to be "followed by geography, languages, the arts, economics, business, civics and citizenship, health and physical education, and information and communication technology and design and technology" (Australian Curriculum Assessment and Reporting Authority, 2010).

While many countries may have on paper a broad range of subjects included in their national curriculum, what carries the most stake become the core subjects. For example, Singapore's primary education curriculum is comprised of languages, mathematics, science, social studies, arts and crafts, and music (Ministry of Education, 2011). But what really matters are languages (English and mother tongue), mathematics, and science because they are the subjects of the Primary School Leaving Exam (PSLE) that determines what type of secondary school a child can enter, and subsequently their future (Singapore Examinations and Assessment Board, 2011). The same is true for Korea. While students may be offered a wide range of subjects, the core subjects required of all students and counted the most on the high-stakes Korean College Scholastic Ability Test are Korean language, mathematics, and English (as a foreign language). Over a dozen other subjects in social studies and sciences are offered as electives (Korea Institute for Curriculum and Evaluation, 2011). China follows the same practice. A broad range of subjects are

offered in the national curriculum, but the College Entrance Exam, which practically determines one's future life, tests Chinese, English, and mathematics as the core subjects for all students, while students can pick and choose other subjects.

The popular international assessments such as PISA and TIMSS further affirm the core status of math, literacy/reading, and science. PISA tests 15-year-olds' abilities in mathematics, science, and reading, while TIMSS, as its name tells, tests mathematics and science. IEA, the same organization that offers TIMSS, also conducts the Progress in International Reading Literacy Study (PIRLS).

In fairness, advocates of internationally benchmarked standards are intelligent people with good intentions. They recognize that a child's education should be much more than the core subjects, but what they fail to recognize is the reality that the subjects that carry the most stakes for students and schools are the ones that receive the most attention and resources. Other subjects become peripheral and disposable. It has also been argued that the core curriculum only prescribes the essential knowledge and skills and should be the foundational knowledge and skills a child needs, thus it is not the ceiling, rather the floor. Unfortunately, due to the differentiated status and stakes, the floor usually becomes the ceiling. The basic becomes the ultimate goal. This is what has been referred to as *curriculum narrowing*.

Curriculum narrowing happens on two levels. First, when high stakes are attached to a limited number of subjects, they take precedence over other subjects. Consequently, time and efforts are taken away from other subjects in order to ensure the high-stakes or core subjects are taught well. There is mounting evidence that NCLB has caused widespread reduction of opportunities for students to learn subjects besides the assessed math and reading (McMurrer, 2007, 2008). Although technically NCLB does not impose a national curriculum or national standards, it forced states to use common assessments in math and reading to hold schools accountable. Thus, in order to ensure that their students performed well on the

common assessments, schools increased instructional time for math and reading and reduced time for other subjects such as arts, music, social studies, science, and even lunch and recess (McMurrer, 2007, 2008). A study by the Center on Education Policy (CEP) published in 2007 found that five years after the implementation of NCLB, over 60% of school districts reported that they have increased instructional time for math and English language arts, while 44% reported that they have reduced time for other subjects or activities such as social studies, science, art and music, physical education, and lunch and/or recess. The decrease was significant: an average of 32% in total instructional time devoted to these subjects (McMurrer, 2007). Table 1.1 summarizes the findings of the CEP study about decreases in instructional time devoted to subjects that are not tested under NCLB since the implementation of NCLB. As Table 1.1 suggests, while instructional time devoted to non-NCLB subjects decreased across the board, the decrease was more significant in school districts that had difficulty meeting the NCLB mandates.

A separate study by the Council for Basic Education (CBE) had similar findings by surveying school principals in 2004, only two years after the implementation of NCLB. The study found that three-quarters of surveyed principals reported increases in instructional time for math and English language arts, 25% reported decreases in time for the arts, and 33% anticipated future decreases (Zastrow & Janc, 2004).

The second level of curriculum narrowing happens within the "favored" subjects. Teaching to the test and learning to test, that is, teach and learn only what is likely to be tested, in the formats most likely presented on the tests, have been frequently observed around the world. China's education has been officially labeled a "test-oriented" education and so has Korea's (Zhao, 2009). In the United States, a CEP study found that NCLB has compelled most school districts to narrow their reading and math curricula to what is covered on the state tests (McMurrer, 2007). The study found that 84% of districts reported that they changed their curriculum Decreasing Instructional Time for Non-NCLB Subjects in Elementary Schools Since NCLB (2001–2006) Table 1.1

Subjects	Percentage of Distri	cts Decreasing Time	Average Decrease in	1 Minutes Per Week
	Districts With No Identified School	Districts With Identified School*	Districts With No Identified School	Districts With Identified School*
Social Studies	31%	51%	70	90
Sciences	23%	43%	67	94
Art & Music	12%	30%	55	61
Physical Education	7%	14%	32	57
Lunch	6%	4%	**	* *
Recess	19%	22%	47	60

SOURCE: McMurrer, 2007, Table 4.

*Districts that had at least one school identified for improvement, corrective action, or restructuring under NCLB.

**Sample size too small to allow reporting.

"somewhat" or "to a great extent" to put greater emphasis on tested content in elementary level reading: 79% in middle school, and 76% in high school. A similar pattern was found in math: 81% of districts changed their curriculum at the elementary and middle school level to emphasize tested content and skills, and 78% in high school math.

Classroom instruction has been transformed into test preparation. Studies found that since the implementation of NCLB, rigid curriculum objectives and mechanistic preparation for state standardized testing hijacked curricular diversity and pedagogical exploration and flexibility. "Teachers felt compelled to match closely what they taught to what would be tested and worried about how well aligned the district curriculum was with state test's content, language, and format" (Valli & Buese, 2007, p. 531). Consequently, instructional quality and opportunities to access a diverse curriculum deteriorate. Cognitively complex teaching becomes more basic-skill oriented and students ultimately become less cognitively nimble. Another study by CEP on the influence of federal and state accountability polices on curriculum and instruction in Rhode Island, Illinois, and Washington found classroom instruction to be focused on test preparation, and teachers generally focused their instruction on content they thought most likely to be tested (Srikantaiah & Kober, 2009).

As a result, what is prescribed as the core subjects truly becomes the core and in many cases the only thing that truly matters to students, teachers, and schools. A broad curriculum remains simply on paper, as exemplified by England's national curriculum experiment. England replaced a largely locally controlled curriculum with a national curriculum in the early 1990s. The curriculum is broader than math and literacy including many other subjects, but only math, literacy, and science are considered core subjects and attached more significance through testing. According to a recent report receiving heavy media coverage, the national curriculum has essentially deprived public school children in England of a real education. The report, titled *The Cambridge Primary* *Review,* summarizes the problems of the national curriculum, among them are

- The loss, for whatever reason, of the principle of children's entitlement to a broad, balanced, and rich curriculum, and the marginalization, in particular, of the arts, the humanities and—latterly—science.
- The test-induced regression to a valuing of memorization and recall over understanding and enquiry, and to a pedagogy which rates transmission more important than the pursuit of knowledge in its wider sense.
- The use of a narrow spectrum of the curriculum as a proxy for the quality of the whole, and the loss of breadth and balance across and within subjects as a result of the pressures of testing, especially at the upper end of the primary school.
- The continuing and demonstrably mistaken assumption that high standards in "the basics" can be achieved only by marginalizing much of the rest of the curriculum. (Alexander, 2009, p. 21)

It is clear that defining a common curriculum and enforcing it through high-stakes testing results in an educational experience aligned with the curriculum. The core curriculum, however defined, becomes the de facto full curriculum. The floor, that is the basic essential knowledge, becomes the ceiling. Perhaps this is what the reformers intend and expect to have.

QUESTIONING THE BET

But the bet that many governments are placing on behalf of millions of children around the world will have little chance to prepare future generations to live successfully in the era of globalization. Even in the most optimistic situation when all wishes become true, which is unlikely, the outcomes will not

be globally competitive citizens. At best all these exercises will be a futile waste of resources and opportunities. At worst, these actions will lead to irreversible damages. This is because our children will face a society that has been fundamentally changed by globalization and technology while the efforts to develop and implement nationally and internationally homogenized curriculum are working on fixing an educational paradigm that has outlived its utility.

The paradigm evolved at a time when the world was separated by geographical distance, when most societies were insular, and when changes happened much slower than today and tomorrow. For most of human history, before this wave of globalization and massive technological changes, economies were mostly local and slow changing. In those economies, most people undertook similar jobs that satisfied the local needs. And in many cases, the jobs and their required knowledge and skills did not change very fast, making it possible to predict and thus prescribe a curriculum that by and large could prepare children to find employment. Furthermore, the knowledge and skills required of workers were fairly basic and most people could be asked or forced to acquire them. Only a relatively small number of individuals were engaged in jobs that require creativity, uniqueness, and high-level cognitive skills.

As a result, the dominant paradigm of modern mass education has been about producing employees with similar skills to meet the demand of the local economy and a common citizenry with similar values compatible with the local society. The primary function of this paradigm has been to reduce human diversity into skillful workers through prescribed content and experiences in the form of curriculum. It is also about passing on cultural values of the local society. The starting point of this education is to identify the essential skills and knowledge a society wishes to pass on for the sake of cultural continuity and gainful economic life of future generations. That is, to formulate a sensible curriculum.

But the world is drastically different now. First, with only a few exceptions (e.g., North Korea), geographical distance and political boundaries no longer divide the world in terms of economical activities. Virtually all economies are globally interconnected and interdependent. Employment opportunities are thus no longer isolated to specific locations. Jobs can be outsourced to distant places physically or performed by individuals remotely. In a world where jobs can be and have been moved around globally, anyone could potentially go after any job he or she desires. Whether she can be employed depends largely on two factors: qualifications and price. All things being equal, those asking for a lower price for the same qualifications will receive the job.

With over seven billion people living on earth today, there is plenty of competition for everyone. But due to the vast economic disparities in the world, there exist tremendous differences in labor cost. The hourly compensation costs in manufacturing in 2010 varied from \$1.90 in the Philippines to \$57.53 in Norway, according to data released by the U.S. Bureau of Labor Statistics in 2011 (Bureau of Labor Statistics, 2011). If a Norwegian were doing exactly the same job as a Filipino, it is very probable that his job will be gone soon. For the Norwegian to keep his job, he'd better be doing something that the Filipino is unable to do.

Here lies the first problem of the global homogenization of learning. If all children are asked to master the same knowledge and skills, those who cost less will be much more competitive than those who cost more. There are many poor and hungry people in the developing world willing to work for a fraction of what workers in developed countries need. Thus for those in developed countries to be globally competitive, they must offer something qualitatively different, that is, something that cannot be obtained at a lower cost in developing countries. And that something is certainly not great test scores in a few subjects or the so-called basic skills, because those can be achieved in the developing countries.

Second, old jobs are being rapidly replaced by new ones as old industries disappear due to technological changes or existing jobs move around the globe. For example, existing firms lost on average over one million jobs annually in the period from 1977 to 2005, according to a report of the

Kauffman Foundation, while an average of three million jobs were created annually by new firms (Kane, 2010). As a result, there is no sure way to predict what jobs our children will have to take in the future. As the head of PISA, Andrea Schleicher recently said: "Schools have to prepare students for jobs that have not yet been created, technologies that have not yet been invented and problems that we don't know will arise" (Schleicher, 2010). Here lies the second problem of the move to prescribe knowledge and skills. If one does not know what careers are there in the future, it is difficult, if not impossible, to prescribe the knowledge and skills that will make today's students ready for them.

Third, jobs that require routine procedure skills and knowledge are increasingly automated or sent to places where such skills and knowledge are abundant with lower cost. As a result, as best-selling author Daniel Pink observed, what will be of more value is traditionally neglected talents, which he refers to as right-brain directed skills, including design, story, symphony, empathy, play, and meaning (Pink, 2005). And these are just antagonistic to the core subjects that are being prescribed by many governments and tested on international assessments such as PISA and TIMSS, which are mostly leftbrained cognitive skills. This is the third problem of the movement to prescribe knowledge and skills for all schools, because what they are prescribing is not necessarily what is needed.

Fourth, the world our children will live in is global, not local as before. Given the interconnectedness and interdependence of economies, the rise of global challenges such as climate change, and the ease of movement across national borders, one's birthplace no longer determines his or her future living space or whom he or she may be working for or with. Thus, to be ready to live in this global world requires the knowledge and abilities to interact with people who are not born and raised in the same local community. But the core curriculum of most nations does not include an element to prepare the future generations to live in this globalized world and interact with people from different cultures. The focus on local values and the need of the local society represents the fourth problem of a national core curriculum and a global curriculum that narrowly focuses on numeracy and literacy.

Last, globalization and technological changes, while presenting tremendous challenges, bring vast opportunities. Globalization, for example, vastly expands the pool of potential customers for products and services. Niche talents that used to be of only interest to a small fraction of people may not be of much value locally because the total population is small in a given community. In the globalized world, the potential customers could be seven billion people. Even a small fraction of seven billion can be significant. Additionally, talents that may be of little value in a given location can be very valuable in another. Globalization and technology today enables products and services to reach almost any corner of the world. But the traditional paradigm, by forcing children to master the same curriculum, essentially discriminates against talents that are not consistent with the prescribed knowledge and skills. Students who are otherwise talented but do not do well in the prescribed subjects are often sent to spend more time on the core subjects, retained for another grade, or deprived of the opportunity to develop their talents in other ways.

In summary, the traditional education paradigm may have worked before but is no longer adequate for the changed world. The efforts to develop common curriculum, nationally and internationally, are simply working to perfect an outdated paradigm. The outcomes are precisely the opposite of the talents we need for the new era. It is the wrong bet for our children's future.

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