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Worrying About Diversity of a Different Kind David C. Berliner<br>Regents' Professor Emeritus<br>Arizona State University

In recent decades when people talk about diversity, or lately superdiversity, they are referring to the many new legal and illegal immigrants to our cities, countries, and schools. These people of different colors, religions, culture, customs, food preferences, clothing, and most importantly different childrearing practices, are a challenge to the schools for two reasons. One is that the public schools of most of the developed world are not very adept at accommodating such differences, and the other is that many of the immigrants are poor and poorly educated. The movement of workers seeking jobs across borders is not likely to stop soon, and the schools of all the developed nations will struggle to find ways to make the children of immigrants into good citizens and good workers.

But there are at least four other kinds of diversity that need to be attended to in the schools of the future, namely, diversity in curriculum, diversity in conceptions of talent, diversity in assessment, and diversity in instruction. I will describe what I see as the present trends in these areas, all of which lead to my worry about the future of schooling in the USA.

Diversity in curriculum. It is now clear that in test-oriented cultures such as the USA and England, for those who are poor, the curriculum offered is increasingly standardized and has become much narrower. The new national standards in the USA, adopted my almost all states, will insure through the national tests that accompany the standards, that we will know with reasonable certainty what all our nations' children are learning every month and year. This pleases most people. Not recognized, however, is that such uniformity in curriculum and assessment promotes homogeneity of outcomes. In test oriented cultures, the curriculum delivered in classrooms is not what is in the state curriculum guides-it is that which will produce higher scores on the standardized tests used to judge teachers and schools. High-stakes testing invariably results in a narrowing of the curriculum delivered to our youth, and that curriculum is close to whatever is assessed on the tests.

Our nations' new tests will be predominantly in reading and mathematics, as was true of testing under the No Child Left Behind (NCLB) act. We anticipate, therefore, an increase in the time spent teaching those two subjects and a continued diminution in the time allocated for teaching other subjects. Research has demonstrated that this is what happens in test-oriented cultures (Berliner, 2011).

Under NCLB time for teaching social studies, government, and history has been substantially reduced in American schools. This occurs despite the cry from almost all Americans that the schools must fulfill their responsibility as institutions for the promotion and maintenance of our democracy. Instructional time for teaching science has been reduced because, under NCLB, the scores on science tests are not counted when determining school or district success. As a rule, instructional time is taken from
untested subject matter areas and instructional time or time spent in test preparation is added to those areas that are to be covered on the tests.

Time for teaching physical education has gone down, despite the fact that our youth are more sedentary, are frequently overweight, and Type 2 diabetes is becoming more common. Recess time and lunch time have been reduced, as well. Art and music, nationally, are down an average of at least an hour a week. This is particularly troublesome because our nation has never spent a lot of time in these subjects and yet their worth seems inestimable to many, including me. The arts can be justified on no other basis than it is proper for our society to be well-versed in and appreciative of the visual arts, music, dance, and theater. But if need be, the arts can also be justified because they provide alternative ways of representing our worlds. By doing that the arts have enhanced scientific and technological innovation, thereby helping the American economy. Arts for our schools, therefore, are not a frill. In every known culture the arts are a manifestation of human creativity. Therefore attempts to limit instruction in the arts, particularly in the schools that serve the poor, is to limit human potential, and that is a very unhappy thought for the education community.

A way to think about the costs to society of a narrow, rather than a rich and diverse curriculum, is to hypothesize about the nature of the future. I see a future that is best characterized as Volatile, Uncertain, Complex, and Ambiguous, a VUCA world (Johanson, 2007). If, indeed, a VUCA world seems likely, I would want for my society the widest possible breadth of talent so that at least some of the talents that exist in society would be appropriate to whatever the world brings our way. I see evolution as a metaphor. In evolution, if characteristics of the niche that one inhabits change, only organisms that are adaptive will find the means to survive. In a VUCA world the social
and occupational niches we inhabit will be under pressure. In times of rapid social change, therefore, variations in talents, like variations in genes, are needed. Identical skills in society, like identical genes in organisms, might not have survival value. So national standards for the design of curriculum, with states adopting highly similar tests, and the accompanying narrowing of the curriculum to meet the standards and increase tests scores, may be dangerous.

Diversity in conceptions of talent. Under a narrower curriculum with tests that are highly consequential for schools, teachers, and students, we end up valuing as "smart," talented, gifted, or successful, those students that produce the highest scores on the indicators we use to judge our schools, teachers, and students. Thus reading skill and mathematics proficiency come to define what it means to be "smart" in school.

But the ability for students to excel in other areas, particularly those that are of inherent interest to them, seems almost unlimited. As examples of this we can think of our students' commitment to their hobbies, such as building robots, studying dinosaurs, learning about our civil war, collecting butterflies, and acquiring strategic and psychomotor skills in video games. But with high-stakes testing students are not allocated school time to follow their interests unless those interests are aligned to the English language arts and the mathematics curriculum. Schools are not designed to value the skills the students have developed on their own. And schools find ways to inform their students, in not very subtle ways, that the high level skills they have developed on their own do not demonstrate they are talented persons.

Our students also learn at an early age that the youngster who can fix any car or any computer is not very talented unless they also score high on the tests. They learn that the student who was terrific at organizing the cookie drive, the child that gave a
great performance in the school play, or the child who does remarkable pencil sketches, are not really gifted unless they also get high scores on the tests. Sadly, so many of the skills that children have acquired on their own, or can demonstrate in school, are not valued unless accompanied by high scores in literacy and numeracy tests.

One curriculum size is now supposed to fit all our students. And the tests associated with that curriculum will naturally determine who is, and who is not, a successful student. Instead, I would argue we need more diversity in our conceptions of who is "smart," talented, gifted, and successful. Of course we should not abandon the goal of high levels of literacy and numeracy for all of our nations' students. That is not what I am advocating. But simultaneously we must also not abandon our commitment to the worth of all our youthful citizens. Innumerable adult Americans of substance in their personal lives and successful in their employment were not considered talented in the language arts and mathematics curricula during their youth. Their school experiences should not teach them that they are of lesser worth than others.

Diversity in assessment. One of the major problems associated with high-stakes testing is the cost. Those who promulgate such assessments have to worry about the money required for the design, field test, psychometric analysis, administration, scoring, and feedback of the test results, as well as the reliability of any test that is consequential for those who take or are affected by the test results. Those costs go up as the number of constructed response items and short essays on a test increase.

Typically, more time is needed to complete constructed response items than multiple-choice items. And typically, the larger the number of items on a test the more reliable it will be. So if you have a limited amount of time available for testing, then the more constructed response items that are on the test the fewer the total number of test
items on the test, and therefore the lower the reliability of the test. Furthermore, compared to multiple-choice items that can be scored rapidly and inexpensively by a machine, the constructed response items usually require slow, expensive and less reliable human judges. This too argues against their use.

Other ways of assessing students, such as with portfolios, group projects, oral presentations and book reports are all harder to standardize, difficult to do on a mass scale, usually less reliable, and require the investment of considerable amounts of time and energy from teachers. So despite the best intentions at the start of a testing program, by the end of such programs you find a very heavy reliance on multiple-choice items, or heavily constrained constructed response items, and these kinds of items all have one major troubling property.

Multiple-choice items almost always rely more heavily on memory than on reasoning, critical thinking, problem-solving, integration of ideas, and creative responses to problems' posed. But memory is now also a characteristic of iphones and hard drives, readily available to us but not requiring any storage space in our brains. Throughout history excellent memory has long been a characteristic of the most educated: our storytellers, priests, scientists, engineers, masons and cooks. But now weak and ordinary memories need no longer be a barrier for a candidate for these and many other jobs. On the other hand, modern businesses say they want knowledge workers: employees that can work in and with diverse groups, think critically, and who can both sense and solve problems. Over reliance on multiple-choice tests interferes with the attainment of these modern goals. Diversity in assessment strategies is needed to be sure that other cognitive processes besides memory have a chance to be displayed in our schools. Learning to think requires an apprenticeship in thinking.

Diversity in instruction. Almost all educators agree that there can be too heavy a reliance on workbooks and computer drills, often done as seat work and often done as a part of test preparation in high-stakes testing cultures. But most educators also agree that there is definitely a place for these kinds of activities. After all, thinking requires knowledge of a domain in which some of that domains facts and processes can be taught efficaciously through drill and practice, seatwork, and assessment with multiplechoice tests. But I am asking that we think about instruction differently. Each semester I would like to have teachers and students instruct their classes in something they are expert at. This then becomes a curriculum, as well as an instructional issue.

Following Kieran Egan's (2010) innovative proposals I would say it is the right of every student to have a subject assigned to them early in their school experience in which, under the guidance of teachers and others in a community, they would learn something is depth. The student, from their earliest experiences in school, would become expert in some area. The assigned subjects that they study, for a minimum of a number of years, could be airplanes, mollusks, the civil war, baboons, lizards, bugs, digital photography, flowering plants, or whatever was broadly educational, just as long as students became experts and were allotted sufficient time to present their growing knowledge of the domain they study to their classmates and the broader school community, at least once per year. That diversifies both curriculum and instruction. It gives children the opportunity to learn the skills and put in the time needed to become expert at something, and by doing so, lets them experience the intellectual power that is achieved when one has expertise in some area. In addition it provides them with a chance to teach others in the area about which they have commanding knowledge.

I would add to Egan's proposal, that it is also the right of every teacher, in spring and fall, to teach for up to one week anything they wanted, as long as it was a broadly educational subject that they loved and in which they had expertise. Students have a right to experience passionate teaching and expertise at work.

A literature teacher who loves Moby Dick and understands the context for 19th century American novels, but learns that this book is not on the recommended list, should not just be allowed to continue teaching teach Moby Dick, but should be applauded for doing so by an appreciative community. Whether its Moby Dick, which is probably close to the official literature curriculum, or instruction in the life cycle of humming birds (my neighbors area of expertise and passion), or instruction about the black jazz musicians who played baseball in France after WWI (my son's area of expertise) does not matter. I really don't much care if the teacher is an expert on mushrooms, airplanes, the Chicago Cubs, World War II, Turkish rugs, quilts, or aspects of physics, chemistry, biology, Photoshop, or number systems. What I care about is that teachers have fields they care about, understand deeply, and are provided the opportunity to teach what they know deeply and might love to teach, whether part of the "official" curriculum or not. Moreover, whatever the field, teachers could learn, over time, to "polish the stone." That is, teachers can make their curriculum of four or five hours, or for a few days each semester, nearly perfect introductions to the topics they love and know well. And if a teacher doesn't really love anything that is broadly educational in or out of the official curriculum, they should go into the field of training, and leave the field of education to those who care deeply about knowledge in one or more areas.

I am convinced that were this done, students would prosper, teachers would have greater professional pride in their talents, schools would be places that are less
impersonal, and broader conceptions of knowledge and skill would enhance our nations ability to face an uncertain future. Students and teachers deserve the opportunity to acknowledge and hear from those that possess expertise and they will profit from the gift of opportunity to instruct others in what they know deeply.

Conclusion
I am concerned with diversity of curriculum, diversity in conceptions of competence and success, diversity in assessment, and diversity in instruction. I am concerned that in high-stakes testing cultures such as the USA, the school curriculum is being narrowed. Although the intended curriculum (what state and local school boards want students to learn) is usually broad and well intended, the implemented curriculum (what happens in classrooms) is usually much more narrow, focused on the test. And the achieved curriculum (what students actually learn) is more likely to be facts, ideas, names, dates and algorithms they have memorized, rather than the cognitive skills for engaging in critical thinking and problem solving.

The narrowing of the curriculum makes it quite likely that our students will get a distorted idea of who is smart, competent, and successful. Currently, they and their parents receive too limited a view of the nature of human talent. This limited view is hurtful to many students whose literacy and numeracy skills are not as high as desired by our schools, and whose special talents lay elsewhere.

The same high-stakes testing culture promotes use of multiple-choice items that possess a single right answer. But helping students to think critically and solve problems is our educational goal, and these desired outcomes of schooling cannot be assessed easily with assessments that rely almost exclusively on multiple-choice items.

Finally, I want to see a diverse curriculum infused with lively instruction in a wide variety of topics. Schools in test-oriented cultures are too often seen as boring by too many students. To elicit both a more diverse curriculum, with the possibility of more lively instruction, I suggest we make students into subject matter experts and communicators of their areas of expertise, and to give teachers the chance to teach that which they love.

The schools of the future need to think about their responses to cultural and linguistic diversity, issues that will not go away in our much more interdependent world. But educators cannot allow concern for diversity to stop there. Diversity in curriculum, conceptions of talent, assessment, and instruction need equal attention in a VUCA world. Increasing responsiveness to diversity in all these areas will promote a more adaptable, and thus a stronger nation.
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