

Are standardized tests inhibiting 21st century learning and would eliminating them foster authentic learning?

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Part I: Introduction

“Assessment efforts should not be concerned about valuing what can be measured but, instead, about measuring that which is valued.” -Trudy Banta

“How many uses can you think of for a paper clip?” This was the question asked to 1500 kindergarteners, 98% of whom scored at a genius level in divergent thinking. Divergent thinking is the ability to creatively propagate ideas, and is the opposite of convergent thinking, which is using a series of steps to reach one “correct” solution. The kindergarteners’ young minds imagined paper clips in unconventional natures, asking questions like: “could they be ten feet tall? Must they be made out of metal?” When the identical test was given to the same students five years later, the percentage of students at a genius level decreased to 50%. Still, after another five years, the percentage declined again (Changing Education Paradigms). As students grow older, their creativity decreases. Is this a product of students spending more time in the classroom? Moreover, is an increasingly standardized classroom abandoning individual creativity and exclusively encouraging convergent thinking?

In an effort to draw conclusions about the the quality of education students are receiving, the federal government administers nationwide tests to measure student learning. These evaluations are standardized, meaning every student is given the same test, producing data which can be used to draw inferences about student standard mastery, teacher and system performance, and can be zoomed out to create a broad picture of student progress. The problem with this homogenized approach to testing is it undermines the value of individual student growth. Children are not lab experiments, and assessments must reflect the uniqueness of students from a diverse array of backgrounds. It is imperative United States public schools exchange

standardized tests for alternative assessment methods to maintain the integrity of authentic learning.

Part II: Historical Context

“Rather than investing in substantial efforts to improve teaching and learning, we have created a system that values summative testing as the cure to what ails us.”

- Johnathan Suppovitz

Standardized educational practices were primarily introduced in the 1960s. After President Lyndon B. Johnson’s “War on Poverty” speech, which primarily addressed the Elementary and Secondary Act of 1965, “[A] period of unprecedented federal activism in education” (Crandall), began. The federal government established standardized curriculum to guarantee all students had certain skills and knowledge. Moreover, standardized testing was pinpointed as the simple method to answer complex questions about what was happening in America’s classrooms (Ellis, 222).

To gain insight into student learning, the federal government implemented No Child Left Behind (NCLB) as their telescope. The goal of NCLB is to “close the achievement gap with accountability, flexibility, and choice, so that no child is left behind” (Ellis, 232). NCLB’s primary method of assessment is via standardized testing which, since implementation, has become the most widespread method of student evaluation.

As such, “high-stakes” are attached to tests to ensure these goals are met and hold teachers accountable for teaching, and students for learning. For example, under NCLB, students are required to show progress in math and reading or after two years government intervention begins. After five years, the school will be closed and teachers fired.

In recognition and response to critics of NCLB, “Common Core,” an initiative toward refining public school standards, has introduced a set of standards “designed to build upon the most advanced current thinking about preparing all students for success in college, career, and life” (Common Core). Unlike NCLB, the federal government does not directly implement Common Core, yet it still requires annual standardized testing. Currently, forty-six states and five United States territories have adopted the Common Core standards, and with that, have acquired more standardized testing in their schools (Common Core). In fact, at the end of March 2014, around 4 million students in third through eleventh grade began taking the Common Core standardized tests for the first time (NPR, 2014). Parents and educators are concerned that even if Common Core is aligned with the most advanced thinking in education, standardized tests are not an effective way to measure 21st century skills.

Part III: Summary of Past Research

“It is in fact nothing short of a miracle that the modern methods of instruction and assessment have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands mainly in need of freedom; without this it goes to wrack and ruin without fail.” - Albert Einstein

Test Development

Before tests can be implemented and administered, they must first be created. Common Core explains that their standard design is informed by teachers, standards experts, governors, feedback from the public, and standards currently in place (Common Core, 2014). One can conclude their standardized tests are aligned with these standards, and the goals articulated in them.

However, there is another influence in the test creation process besides teacher and expert input. Charles Ellis explains there is a multitude of corporate influence infused into the creation and publishing process. In the case of NCLB (whose results can be used to create predictions and draw conclusions about Common Core), the demand for curriculum and tests produced a competitive market between publishing companies and businesses. This competition fuels corporations to use whatever means possible to sell tests. Thus, publishing companies use their money to influence schools to purchase certain products. For example, Former President Bush's brother Neil used his political influence to convince the Houston school district to purchase his educational materials: "Wells Fargo and other Bush family friends donated \$115,000 to the Houston school district's charitable foundation contingent on the purchase of Ignite materials" (Clarke, 28).

Another study conducted by Robert Sternberg suggests the primary focus of standardized test publishers is marketability. He explains:

A typical school-based intelligence test is developed to meet ten criteria: 1) predicting achievement, 2) test-retest or alternate forms reliability, 3) accurate standardization, 4) high correlation with similar tests, 5) ease of administration, 6) ease of interpretation, 7) objectivity of scoring, 8) perceived fairness, 9) cost effectiveness, and 10) legal defensibility. (Sternberg, 138)

In this, Sternberg suggests that what drives test creation is not particularly concerned with authentic student assessment. Instead, publishing companies aim to produce a test booklet which is cost effective, easily administered, and legally sound. Sternberg argues "these criteria are not a fair assessment of the individual but merely criteria for marketable testings." Sternberg then advocated for a test which measured the

analytic, creative and practical side of individuals, as well as their thinking pattern and learning style (Czubai, 183).

Why Public Schools Administer Standardized Tests

Johnathan Suppovitz explains the reasons public schools currently standardized test: “[to] motivate teachers to improve their performance...align the major components of the educational system...guide classroom and organizational decision-making...[and] serve as evidence that public education is, in essence responsible and rigorous and further provide symbolic of the system,” (Suppovitz).

Michelle Rhee, the former chancellor of the Washington D.C. school district from 2007 to 2010, argues that the goal of assessments is to gauge where students are in their academic journey, and advocates for standardized testing to serve as this gauge. She explains,

Stepping on the bathroom scale can be nerve-racking, but it tells us if that exercise routine is working. Going to the dentist for a checkup every six months might be unpleasant, but it lets us know if there are cavities to address. In education, tests provide an objective measurement of how students are progressing-- information that's critical to improving public schools. (Rhee, 2014)

Rhee views standardized tests as an effective and objective means to achieve an understanding of holistic student progress. She argues tests “chart progress. They identify strengths and weaknesses. They help professionals reach competency in their careers,” (Rhee, 2014). Rhee views standardized tests as reliable methods for measuring these points, and suggests they help improve public schools.

What Tests Measure

Critics of standardized testing argue they do not measure student progress, but primarily highlight socioeconomic status, students' inherited aptitude, and knowledge of testing strategy. In *Teach Better, Test Better*, W. James Popham references a few scenarios in actual standardized tests which do not measure students' in-school learning, and exhibit test bias.

Biased questions are problematic because they do not give all students an equal chance to succeed. Some questions give students an advantage based on their socioeconomic status. Popham provides an example of a question which asks about different fruits and the seeds within. Due to the price and scarcity of some of the listed fruits, poor students had an unfair advantage because they were unfamiliar with the fruit.

Popham also points out blatant test bias on a question which asks about symmetry in letter folding. He elaborates, "this item is designed to measure a student's inborn spatial aptitude. It's certainly not measuring a skill that teachers promote through instruction. After all, how often is 'mental letter folding' taught in fourth grade mathematics classrooms? Never" (Popham, 131). Popham feels that bias in standardized tests is discriminatory to students, who are either advantaged or disadvantaged based on uncontrollable factors in their life. Moreover, he argues this does not effectively measure what students are learning in school. Student, teacher, and systemic success can not be accurately assessed if standardized tests are not evaluating what students learn in the classroom.

Critics of standardized tests also denounce the testing strategy involved. In a study by Victoria McLain, 783 third grade students and 801 fifth grade students were given a standardized

test. The assessment was set up as a pre- and post-test, and students received strategy training before the posttest. There were significant increases after the students received strategy training (McLain, 81). This study is additional evidence that tests are not measuring learning, but rather knowledge of testing strategy.

What is educationally important now, and how should assessments reflect this?

The Common Core is evidence that both advocates and critics of standardized testing believe a education must evolve with society. John Dewey articulated this same idea: “Let us then ask after the main aspects of the social movement; and afterward turn to the school to find what witness it gives of effort to put itself in line” (Dewey, 5). Common Core highlights college and career readiness as being imperative to students’ education (Common Core, 2014). Race to the Top, an initiative endorsing and awarding funds to states adopting Common Core’s college and career readiness standards, emphasizes the value of learning to read complex texts, execute research, speak and listen in classroom assignments and work with digital media (Secretary of Education, 2010). Sir Ken Robinson, in partnership with the Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA) identified the two main goals of international public education reform:

The first of them is economic. People are trying to work out how do we educate our children to take their place in the economies of the 21st century... The second though is cultural. Every country on earth is trying to figure out, how do we educate our children so they have a sense of cultural identity, so that we can pass on the cultural genes of our communities? (Changing Education Paradigms)

Common Core, Race to the Top, and Robinson all advocate that students develop

skills which prepare them to succeed and find their place in the 21st century world. The primary debate is not surrounding the “what” of assessment, but the “how.”

How do schools measure what matters?

Amongst widespread mutual agreement about developing new curriculum to meet changing societal needs, there is an array of opinions on how to measure these skills. Refinement of student evaluation is integral to making sure tests evolve with education and society.

Common Core is refining the standardized test to meet the changing standards. The Race to the Top Assessment Program is encouraging states to develop new student testing strategies that are “valid, support and inform instruction, provide accurate information about what students know and can do, and measure student achievement against standards designed to ensure that all students gain the knowledge and skills needed to succeed in college and the workplace,” (Race to the Top Assessment Program, 2013). To promote these contemporary standards and tests, Race to the Top has designated over four billion dollars to distribute to states adopting Common Core and designing new robust tests (Race to the Top). Advocates of standardized tests argue modifying current tests is a plausible, efficient, and effective way to design evaluations that meet new standards.

Yet radical education reformers believe the shape, not just the content, of assessments can evolve with changing curriculum and a growing world. In *The Flat World and Education*, Linda Darling-Hammond explains that student evaluation must mirror the drivers test. Like drivers tests, testing in school should evaluate what students can do, not just if they know how to use the turn signals and identify the colors of road signs. Being capable of safely maneuvering

traffic is far different than simply choosing an answer on a test, because it is actively exhibiting knowledge and learning (Darling-Hammond). Though NCLB and Common Core opt for standardized tests as an efficient way to generate data, Linda Darling-Hammond argues tests need to be action based, and thus more catered to the individual.

Part IV: Analysis

*Not everything that counts can be counted, and not everything that can be counted counts.
-Albert Einstein*

In a changing world and evolving education curriculum, it is imperative assessments simultaneously develop and advance. With Common Core's new standard implementation, the US public school system is redefining traditional standards and is shaping goals based on contemporary society. However, in spring 2014, over four billion students began testing required by Common Core. These tests developed for 20th century education are being used to measure 21st century skills. Sir Ken Robinson explains that the public school system is cemented to the industrial era:

...[W]e have a system of education which is modeled on the interest of industrialism...Schools are still pretty much organized by factory lines, on ringing bells, on separate facilities, specialized into separate subjects...If you are interested in the model of learning you don't start from this production line mentality. This is essentially about conformity. (Changing Education Paradigms)

Robinson argues that education can not remain stagnant in a changing world. He pleads, "We're getting our children through education by anesthetizing them, and I think we should be doing the exact opposite. We shouldn't be putting them to sleep, we should be waking them up to what they have inside of themselves," (Changing Education Paradigms). Student learning and assessment must be amended to reflect developing society. Henry Ford, a leading innovator in

creating the modern car explained, “If I had asked people what they wanted, they would have said faster horses.” Though Common Core is trying to develop a more comprehensive, relevant standardized test, like Henry Ford’s innovation with the car, there is a new, radical way.

Standardized tests are efficient, objective and linear, and are simple and quick to generate data. However, authentic learning must be prioritized over efficiency, cost-effectiveness and ease. Valuable learning is not a mile wide and an inch deep, nor is it straightforward and the same for each student.

The first step to measuring authentic learning is to produce an assessment catered to the individual. Currently, standardized tests are developed to be legally defensible, easy to administer and interpret, and meet marketability criteria. Developing tests in this manner promotes the narrative that education is a commodity. Students are not products, and redefining the test process is the first step to raising this awareness.

What should schools be measuring in the 21st century world? This, is quite simple. Schools should be measuring individual student growth. Individual student growth measures students in relation to the standards instead of in comparison to their peers. Unlike the current system, individualized student assessments should not assess inherited academic aptitude, or measure a student’s socioeconomic class based on the type of fruit they do and do not recognize. Individual student growth is criterion-referenced, meaning it is based on the students relation to the target skill or body of knowledge (Popham, 142). Measuring student growth begins by acknowledging the individuality of each student, which standardization quickly discards. With this identification of uniqueness, schools must then measure students based on how they are holistically growing as passionate contributors to society.

In Assessing 21st Century Skills: A guide to evaluating mastery and authentic learning, Laura Greenstein explores how individual assessments can be used to assess 21st century skills in relation to Common Core standards. This approach to assessment is called “differentiation,” which is the opposite of “standardization.” The goal of differentiation is to assess ambiguous skills like critical thinking, collaboration/communication global understanding, and college/career skills, in a form that coexists with student diversity. Greenstein laid out a table explaining the intersection between 21st Century Skills and strategies used to measure these. Greenstein proposes that critical thinking can be evaluated through students producing a science lab analysis, taking a position and presenting a speech, persuading peers in a debate, incorporating multimedia and writing a blog, or creating a portfolio, contrasting and corroborating examples. Communication skills can be measured through writing a press release, participating in a Socratic seminar, or developing a multimedia photo-story. Living with a global understanding can be measured through students designing an original global menu, campaigning for global change, creating dynamic multicultural artwork, or utilizing online global collaborations (Greenstein, 54).

What distinguishes these from traditional testing techniques is their integration with classroom learning. Assessments should not be tests removed from class work, but rather the work, designed to help students learn and grow, while simultaneously assessing authentic student growth. Standardized tests have diverged from authentic evaluations by making learning and tests separate entities. However, learning and testing are not mutually exclusive. Indeed, they are interconnected, and this overlap between them is where students can grasp relevance, passion and understanding.

Part V: Conclusion

But the great thing for one as for the other is that each shall have had the education which enables him to see within his daily work all there is in it of large and human significance. How many of the employed are today mere appendages to the machines which they operate! -John Dewey

Standardized tests have revolutionized the goals and experience of learning. They have taken a process meant to open doors for students and created a system where all students are marching in a single-file line through one door. Take thirteen year old Esmee whose mantra is “memorization, not rationalization,” as she goes through school (Greenfeld). Although initiatives like Common Core are promoting 21st century skills in classrooms, standardized tests still loom over students, teachers, schools and districts, threatening to systematize the learning experience. Students like Esmee have internalized the idea that they must know the content, but have no comprehension of its value. Eradicating the standardized test will diminish the homogenization of the public school system, emphasize relevant learning and understanding over test scores and memorization, and will catalyze a revolution in schools, recapturing the beauty of learning.

In 1915, John Dewey advocated for a classroom setting where students were inspired. He believed authentic learning took place in immersion of life experiences, and that students learn from doing, not just listening. He highlights the value of creation, innovation, observation, ingenuity, construction, imagination, logic, inquiry, patience, persistence, alertness, and creativity; claiming reality is the best place to develop and practice these applicable skills. Indeed, skills developed in real-world responsibility are the most relevant to life after and outside of the schoolhouse.

The skills John Dewey described cannot be measured in multiple choice questions. It is not possible to condense creativity and ingenuity between the pages of a test booklet. Thus,

standardized tests must be replaced by assessments that maintain the integrity of authentic learning. How so? Schools must measure student growth in ways which celebrate the diversity of all students and revitalize the public school classroom: portfolios, debates, analyses, reflections, sculptures, and other tangible displays of learning.

Realistically, these alternative tests are not the exclusive problem ailing the public school system, nor is eliminating them the exclusive cure. Standardization is a systemic problem, whose end must also be accompanied by, for example, passionate teachers. However, eliminating standardized tests in schools would make a huge impact in reforming the United States public school. This will inspire authentic learning by redefining the intrinsic value of classroom exploration, promoting relevant and applicable skills, and effectively measure student progress systemically and globally.

Emphasizing the intrinsic value of learning is imperative, as it redefines the goals of our classroom. When pressure is taken off high scores on standardized tests and high stakes, the goal of both teaching and learning is to open doors for students and inspire them to become life-long learners. When students and teachers are not wholly focused on test scores and high stakes, learning becomes an intrinsically driven endeavor. This is the first step to inspiring authentic learning, as time that would have been spent focusing on extrinsic ends and teaching students testing strategies, can be spent delving into concepts which drive imagination and spur curiosity.

In turn, students will see the relevance and applicability in their learning. Students like Esmee who robotically repeat “memorization, not rationalization,” do not see the value in understanding their work, because they see their work as means to an end of good grades and

high scores. Peter Greene describes this extrinsically focused factor of standardized testing as going on a road trip:

Standardized tests are like driving down a highway on vacation where every five miles you have to stop, get out of the car, and make three basketball shot attempts from the free throw line— annoying, intrusive, and completely unrelated to the journey you're on. If someone stands at the free throw line and threatens you with a beating if you miss, it still won't make you conclude that the requirement is not stupid and pointless. (Greene)

Thus, with the elimination of standardized tests, and as learning is internalized as an intrinsically valuable experience, students discover how learning is relevant to their own life.

In addition to giving learning intrinsic value and relevance, eliminating standardized tests and adopting authentic assessments will effectively measure individual student learning. Despite efforts to generate a zoomed-out depiction of systemic success, standardized tests have zoomed-in on the idiosyncrasies of diverse students, highlighting inherited aptitude and socioeconomic status. Standardized tests themselves are evidence that students come from various backgrounds and have a multitude of learning styles and skills. Students from low-income families statistically have lower scores on standardized tests (College Board). Instead of trying to blur the differences between students, assessments should readily recognize and meet the needs of unique individuals-- students from both low-income and high-income houses, and students with varying and specialized inherited academic strengths. All of these individuals must be met by curriculum and assessments designed to prepare them to succeed. When assessments are geared toward the idiosyncrasies of unique human beings, the results will measure what students are learning in school, instead of what they have inherited, like spatial aptitude. As such, the results of these assessments can be used by teachers to refine their pedagogy and give students a gauge of their own learning. In addition, individualized student

evaluations, such as seminars, debates, blog posts, community involvement, can not be cheated on, because they rely solely on the active doing of the student. Like the drivers test Linda Darling-Hammond referenced, authentic evaluations measure students abilities to put their learning into action. They assess if students can rationalize, not just memorize.

Authentic student assessments are realistic for the United States public school system. Finland is proof that individual assessment is possible on a national scale. Fostering innovation and spreading inspiration in the classroom, and requiring only one standardized test at the end of post-secondary school, Finland has some of the highest scores in the world compared to other countries (Partanen, 2011). On the same standardized test, called the Programme for International Student Assessment (PISA), the United States is currently ranking barely above average compared to the rest of the world (Walker). Finnish assessments are designed by highly trained and educated teachers, who develop individual report cards for students after each semester (Partanen, 2011). This suggests that with strong teachers, the United States public school system can thrive without regular standardized testing.

Schools in the United States are beginning to adopt alternatives to standardized testing, and are finding more effective ways to measure student growth. Over 800 colleges in the United States are now test-optional, meaning they do not require the SAT or ACT. In standardized test scores' place, most of these colleges require a portfolio submission, and use grades to predict college success, which are a more reliable source than test scores (Bash). As such, instead of acquiring more test preparation books, students applying to these colleges are encouraged to get involved in their communities and pursue opportunities for personal growth.

This is the beautiful thing about learning: when provided space, it can manifest into magnificent adventures. Aldo Leopold spoke of one way learning could be expanded beyond the conventional boundaries of curriculum. In his article “The Land Ethic,” Leopold describes the importance of seeing history from an environmental perspective:

In India, regions devoid of any sod-forming grass have been settled, apparently without wrecking the land, by the simple expedient of carrying the grass to the cow, rather than vice versa. (Was this the result of some deep wisdom or was it just good luck? I do not know.) In short, the plant succession steered the course of history; the pioneer simply demonstrated, for good or ill, which successions inhered in the land. Is history taught in this spirit? It will be, once the concept of land as a community really penetrates our intellectual life. (Leopold)

In this, Leopold challenges the hegemony that history is people-centered and argues there are many sides not normally acknowledged. This is a crucial element of developing environments conducive to authentic learning-- room to explore various perspectives instead of honing in on a single story, which is typical of our current classroom climate.

With room to broaden traditional learning, the possibilities are endless-- for pedagogy, for student inspiration, and for growth as communities and generations.