STANDARDIZED TESTING: AN INADEQUATE MEASURE OF ACADEMIC ACHIEVEMENT AND COGNITIVE GROWTH

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Abstract

This article discusses the ongoing debate surrounding standardized testing in the United States. The article presents arguments for and against standardized testing as a measure of intelligence and educational achievement. The article examines the number of mandated tests that U.S. students take each year and the accuracy and legitimacy of using standardized testing to measure cognitive growth. The article also explores alternative ways of measuring intelligence and potential and considers the impact of standardized testing on college admissions. Overall, the article argues that the current emphasis on standardized testing in the U.S. public education system may not be an accurate measure of cognitive growth and may not provide equal opportunities for all students to succeed.

Keywords: *standardized test, education, measure of intelligence, educational achievement, government mandates*

The reliance on standardized testing in the United States has become increasingly contentious, especially when assessing its efficacy in measuring academic achievement and cognitive development. This article contends that standardized testing as a form of assessment in schools and as a tool for measuring student learning is not an accurate means of evaluating cognitive growth in the U.S. It is urgent to consider alternative assessment models, like the ones used in Nordic

countries, which provide a more comprehensive and fair approach to education. The United States should reconsider its confidence in standardized testing and adopt methods that reflect students' diverse cognitive strengths and intellectual abilities. Research from the National Education Policy Center (NEPC) underscores the need for this shift, highlighting how reliance on standardized tests can exacerbate educational inequities and fail to capture the full range of student abilities (Close et al., 2018). The NEPC suggests that assessments should be more holistic, incorporating methods such as formative assessments, project-based learning, and portfolios (Close et al., 2018). This evidence supports the argument for more inclusive and effective assessment practices that accommodate the diverse talents of all students, a crucial step towards a more equitable and just education system.

Finnish schooling relies on human interaction in education, with only one standardized test in a student's schooling. Timo Heikkinen, a Helsinki principal with 24 years of teaching experience, said, "If you only measure the statistics, you miss the human aspect." (Hancock, 2011) Finnish education ranks among the top educational systems globally. The detrimental effects of the current system are significant, but the potential for change is not only necessary; it is crucial and attainable. While the College Board releases results comparing scores between states and grade levels, these results do not reveal socioeconomic factors, race/ethnicity, or gender (Naughton, 2022). However, such demographics are documented at the Department of Education and confirm significant achievement gaps based on national tax rankings, race/ethnicity, and gender (Naughton, 2022). To put the U.S. curriculum into perspective, Naughton (2022) includes the following data: According to research by the Washington Post, the time consumed by standardized testing alone—not including preparation—takes up 2.34%, or 4.22 days, of a typical 180-day school year. Research has also shown that the average teacher spends fourteen days

preparing students for state-mandated exams and twelve days for district-mandated exams. Educators and students lose thirty days out of an average 180-day school year to prepare for standardized tests, which amounts to 16.7% of the entire school year (Naughton,2022). However, we still rank in the middle. This data, however, also presents an opportunity for change, a potential for improvement that we can strive for.

Standardized testing, the cornerstone of the U.S. education system, is primarily used to measure academic achievement (Naughton,2022). However, these tests fall short of capturing cognitive growth, which involves critical thinking, creativity, and problem-solving skills. A 2015 study by the Council of the Great City Schools revealed that U.S. students take an average of 112 standardized tests between pre-kindergarten and 12th grade, a number that far exceeds most developed nations. This overemphasis on testing is a cause for concern, especially when U.S. students rank lower in international assessments, particularly math, science, and literacy. In the Programme for International Student Assessment, also known as PISA, U.S. students ranked 38th in math and 24th in science and literacy (Desilver, 2017). These rankings raise serious questions about the validity of standardized testing as a tool for evaluating student achievement. In their 2023 study, Kubatzky and Benner argue that U.S. standardized tests often fail to effectively address the diverse abilities of students with intellectual disabilities. Despite federal law mandating standardized testing participation, the accommodations provided are frequently inadequate for these students' needs. One basis for this argument is that test formats often do not align with students' cognitive processing requirements, as seen in cases where students struggle with time constraints. For instance, students who need more time to understand and respond to complex questions may perform poorly without extended time accommodations (Kubatzky & Benner, 2023). Another issue is the complexity of test language, which can

hinder comprehension for students with intellectual disabilities. Kubatzky and Benner highlight that questions involving abstract language or idiomatic expressions may lead to misinterpretation, preventing students from accurately showcasing their knowledge. This study underscores the urgent need for more inclusive, innovative assessments to better support students with learning disabilities (Kubatzky & Benner, 2023).

Cognitive growth, which includes higher-order thinking, creativity, and problem-solving, is essential for academic success and lifelong learning (Fehlbaum et al., 2021; Erickson & Espinoza, 2021). Standardized tests emphasize narrow academic abilities, such as memorization and multiple-choice reasoning, while neglecting broader cognitive development. According to Odell (2022), they need to assess critical thinking and adaptability essential for real-world success. Research by Erickson and Espinoza (2021) further supports the claim that intelligence is not a fixed trait that a single test score can encapsulate. Instead, it is influenced by environmental factors, experiences, and education over time.

In contrast, Nordic countries, notably Finland, employ inclusive, personalized approaches to evaluating student progress. Instead of standardized tests, Finland uses continuous, formative assessments focusing on a broad range of skills, such as problem-solving, creativity, and social-emotional development (Sahlberg, 2021). For example, Finnish teachers assess collaboration and critical thinking by having students work in groups on projects that require analyzing real-world problems, allowing educators to evaluate teamwork and innovation skills (Hancock, 2011; Sahlberg, 2021). Additionally, teachers often gauge emotional intelligence through reflective activities and discussions, encouraging students to understand and manage emotions constructively—a skill set valued in Finnish education for supporting personal and interpersonal growth (Hancock, 2011). Finland's success on international assessments like PISA shows that

minimizing standardized testing can foster deeper academic and social outcomes, aligning education more closely with students' overall development (OECD, 2019).

In Finland, the evaluation process is further tailored to individual progress, with teachers using a blend of formative assessments, direct observations, and personalized feedback to gain a comprehensive view of each student's strengths and areas for improvement (Sahlberg, 2021). Formative assessments occur throughout the learning process, with informal evaluations like group discussions, project presentations, and peer reviews providing insight into academic comprehension, social abilities, and peer collaboration (Hancock, 2011). Self-assessment and reflective practices are emphasized; students set personal learning goals and regularly reflect on their progress, promoting a growth mindset and encouraging ownership of learning. Students may also maintain portfolios to track their development over time, giving educators insight into cognitive and emotional growth (Sahlberg, 2021). Creativity and problem-solving skills are assessed through projects that require innovative thinking and collaboration, offering teachers a way to evaluate the practical application of knowledge (OECD, 2019). Teachers also observe social-emotional skills, such as emotional management and social interactions, as indicators of well-rounded development (Sahlberg, 2021).

The educational success of Nordic countries is often attributed to their unique focus on inclusivity and individualized learning approaches specifically designed for students with diverse cognitive abilities, including those with intellectual disabilities. According to the European Agency for Special Needs and Inclusive Education (2020), Nordic countries tailor their educational strategies, allowing students to demonstrate their cognitive growth in ways that standardized tests often fail to capture.

In contrast, the United States also accommodates the needs of students with diverse cognitive abilities through frameworks

like Individualized Education Programs (IEPs) and 504 Plans (U.S. Department of Education, 2024). IEPs provide tailored educational plans for students qualifying for special education, while 504 Plans ensure equal access to education for those with disabilities (U.S. Department of Education, 2024). However, despite these efforts, standardized testing remains uniform across all students, which can overlook the nuanced progress of individuals with intellectual disabilities. Therefore, while both regions recognize the importance of supporting diverse learners, the Nordic approach stands out for its emphasis on personalizing learning experiences to reflect each student's cognitive development more accurately.

One of the primary critiques of comparing U.S. educational performance to Nordic countries is the difference in population size and diversity. The more extensive and diverse U.S. population may influence literacy rates and overall educational success. However, organizations such as the OECD adjust for factors like socioeconomic status, parental education, and immigrant status when evaluating PISA results, ensuring a more balanced comparison between countries (OECD, 2019).

Even with these adjustments, Nordic countries outperform the U.S. in literacy, math, and science. Finland's success in PISA rankings suggests that holistic education, rather than standardized testing, better serves students' long-term intellectual and academic development (OECD, 2019). The differences in educational outcomes are not solely a result of population size but are also influenced by the more inclusive and adaptable educational models practiced in Nordic countries.

Another significant issue with standardized testing in the U.S. is its contribution to educational inequality. Students from lower-income backgrounds are often disadvantaged in a system that emphasizes standardized test scores. These students may not have access to the same test preparation resources as their wealthier peers, which can significantly affect their performance on exams such as the SAT

and ACT (Naughton, 2022). This system exacerbates educational disparities by equating test scores with academic potential despite the socioeconomic and environmental factors influencing student achievement.

Standardized tests also fall short of accounting for students' life circumstances. For instance, a student who undergoes trauma or hardship before a test may not perform well, not because of a lack of intelligence but due to external stressors that negatively affect test performance. According to research by Fehlbaum et al. (2021), students' cognitive development and emotional regulation are significantly influenced by their environment. They neglect these factors in standardized testing, which results in an inaccurate portrayal of a student's intellectual potential and academic abilities.

Shifting from high-stakes testing to alternative assessment methods that encourage critical thinking, creativity, and emotional intelligence would benefit the U.S. education system. For example, teachers could be given the authority to create assessments tailored to their students' learning needs instead of relying on standardized tests created by external organizations (Sahlberg, 2021). The success of the Nordic model demonstrates that when students are evaluated based on their holistic development rather than their test-taking abilities, they are better prepared for the complexities of modern life. The U.S. education system must evolve to meet the demands of a rapidly changing world, where creativity, adaptability, and problem-solving are paramount.

In conclusion, the shortcomings of standardized testing in accurately measuring cognitive development and academic potential highlight the urgent need for reform in the U.S. education system. These tests predominantly reflect a narrow set of skills, failing to accommodate the diverse intellectual profiles of students, particularly those with disabilities and from disadvantaged backgrounds. This can perpetuate cycles of inequality, as students who may excel in non-

traditional learning environments or possess critical, creative skills are often overlooked.

By adopting the assessment practices seen in Nordic countries, which emphasize a broader understanding of student capabilities and development, the U.S. can shift towards evaluations that prioritize holistic learning outcomes. Such methods include portfolios, project-based assessments, and formative evaluations encouraging collaboration, creativity, and individual growth. This shift is not merely a preference but a necessity. In our interconnected and rapidly changing world, fostering intellectual growth alongside critical thinking and creativity will equip students with the tools they need to navigate complex challenges. Moving away from standardized testing as the primary measure of success, we can cultivate a more inclusive and adaptive education system that empowers all learners to realize their fullest potential, ultimately enriching society. ■

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