The Dilemma of K-12 Education

Flaws, Reform, and the Future of America
Overview

Education is a topic of the utmost importance. Literacy rates and test scores are often used in economic studies as an indication of the progress of a given country. According to the National Center for Education Statistics, 50.1 million students in the United States began K-12 education in Fall 2015 (US Department of Education). Students who complete high school earn more on average than their counterparts who do not complete secondary education (US Department of Education).

Education systems in the United States were started by religious organizations in the 17th Century while America was still a colony. The first compulsory education law was established in Massachusetts in 1851 (“Historical Timeline”). Since that time, the structure of K-12 education has evolved with the growth of economy. In the 20th century, industrial expansion created a need for citizens that could function in a factory setting, thus the education system was crafted around this idea. Since this time, minimal reforms have been made to the education system (Zhao).

The United States is a world leader in many respects, but has seen as below average with regard to its education. Although the K-12 enrollment numbers are large in the US, nearly two-thirds of eighth graders scored below proficient in reading and math in 2011 (“The Broad Foundation”). In comparison to other nations, the US scores are near the international mean, falling behind many countries education systems like China, Japan, and Belgium (Woessmann). This raises the questions: How can the United States improve its education program to compete with these nations? In what ways does our education need reform? What models have proven most effective in increasing literacy and math proficiency in youth? For most, there are three areas of focus in education that are especially troubling.
• **Students Graduate Unprepared for the Workforce.** As our nation looks to be the most efficient producer of goods and services, it relies on an education system that can prepare citizens to do so. Many Americans feel that the current education system is resulting in lost ground for the US in global economic competition.

• **The Individual is Not a Focus in Our Education.** Current education systems focus on a broad scope of knowledge that all students are required to learn. It is a known fact that every individual is better fit to learn one subject over another based on their interests, so our education should cater to the individual needs of each student to help all learn most effectively. The freedom of students to choose their own route of education is something that must be addressed.

• **Some Students Are Not Getting the Same Opportunities as Others.** With the growth of private and charter schooling options, many students from low-income areas are not being afforded the same educational opportunities that the wealthy have. This problem of inequality is further emphasized by a minority population that has access to a narrower scope of course selections in their respective school districts.

These issues are only emphasized by recent controversies in attempted education reforms. The most well-known of these reforms is the No Child Left Behind Act of 2001. This document required schools to assess students and put forth standards that must be met by each student (Boyd). This act created responsibility for schools to teach at a certain level or risk losing federal funds. In general, the act has led to increased test scores and improved teacher accessibility, but has also resulted in many schools in low-income areas losing a great deal of funds thus making it harder to teach students. In addition to the NCBL act, Common Core educational standards have also seen public debate because of its highly controversial method of standardizing education. As we envision

![Figure 1: Real Cost of K-12 Public Education and Percentage Charge in Achievement of 17 Year Olds](image-url)
the future of our K-12 educational systems, the various pros and cons of each option must be considered with great weight. By doing so, an optimal solution of educational standards can be implemented.

**THEME ONE**

Preparing for the workplace

**THE PRIORITY OF K-12 EDUCATION SHOULD BE TO PREPARE STUDENTS TO BE SUCCESSFUL IN THE WORKPLACE AND HELP THE UNITED STATES REGAIN ITS FOOTING IN THE GLOBAL ECONOMY. MANY AMERICANS CURRENTLY BELIEVE THAT OUR EDUCATION SYSTEM IS DISCONNECTED FROM THE WORKPLACE. ACCORDING TO A 2014 GALLUP REPORT, ONLY 17% OF AMERICANS THINK THAT HIGH SCHOOL GRADUATES ARE PREPARED FOR THE WORLD OF WORK (“STATE OF AMERICA’S SCHOOLS”). FURTHERMORE, AMERICAN STUDENTS ARE FALLING BEHIND STUDENTS IN OTHER INDUSTRIALIZED COUNTRIES, PLACING ONLY 35TH IN MATH AND 27TH IN SCIENCE OUT OF 64 COUNTRIES ON THE PROGRAM FOR INTERNATIONAL STUDENT ASSESSMENT (KENT). IN ORDER TO BETTER PREPARE STUDENTS FOR THE WORKPLACE AND REVITALIZE OUR 21ST CENTURY ECONOMY,**

*Competition and Achievement in the Classroom*

**IMPROVING STEM EDUCATION**

As we enter the height of the information and technology era, it is critical that students have a strong educational background in STEM fields so that they can meet the demands in these growing fields. According to the U.S. Bureau of Labor Statistics, 16 of the 20 occupations with the largest expected growth in the coming decade are STEM related (United States Department of Labor). Despite the evident need for STEM workers, the current state of STEM education in the United States leaves much room for improvement. A recent report by a National Research Council Committee states, “Effective STEM instruction is the exception in the vast majority of schools” (“Successful K-12 STEM Education”). Currently, many American students receive little exposure to these fields until they reach college, which needs to change if we want a high-performing American workforce. Introductions to software, experimental design, logic, and other key STEM concepts can begin even in elementary school. Young children should receive as much exposure to these fields as they do for English and social studies so
Currently, the United States’ education system, particularly at the high school level, is designed to prepare students for college. However, only 66% of high school graduates enroll in college the year following graduation, and according to a New York Times article, that percentage has been dropping in the past few years (Norris).

that they can develop their interests early. Increasing exposure at a young age will help remove the stereotypes that STEM fields are extremely challenging and only for the brightest students. Obama is asking for $4.1 billion to expand computer programming classes at all public schools to ensure that all students have the opportunity to learn this skill (Olorunnipa). Furthermore, a more
structured and focused curriculum plan needs to be developed for these subjects across grade levels. Students should feel like the STEM content they are learning one year builds on and connects to what they have learned in previous years.

Individualize Coursework Based on Career Plans

Attending a college or university is not the best career decision for every student so high schools should provide alternative tracks and options for some students. In fact, there is a high demand for trade school graduates, but most high schools give their students little exposure to this option (Kavilanz). The concept of vocational schooling is historically a European idea, well implemented in countries like Germany and Finland (Bidwell). While it would be unrealistic to suggest that high school completely reform and adopt a full tracking system, students should have more options to adjust their coursework based on their potential career plans. For example, a student that intends to take over the family business once he/she finishes school does not necessarily benefit from having to take pre-calculus and calculus math classes. A student like that would most likely be better off with the option to take math classes that focus on finance and economics. Even for students who intend to go to college, a track-like system could still offer benefits. Students who are interested in STEM fields should have the option to take programming classes instead of the typically required foreign language classes. For high schools that are located close to community colleges or trade schools, joint programs should be emphasized that allow high school students to pursue specific fields of interest while meeting graduation requirements. Each student should be ready and fully informed about choosing his or her career in high school. It is also important not to pressure high school students to make career decisions too early because some options like trade schools do not offer the same flexibility as typical undergraduate programs in changing your area of focus.

Enhance Practical Skills and Experiences

There has been much debate on how the K-12 education system should balance practical skills with theoretical knowledge. With the current emphasis on standardized testing, many students graduate high school with inadequate communication and critical thinking skills. The AARP Foundation lists problem-solving, oral and written communication, leadership, and creativity as some of the most important skills for potential employees to have (“What Skills”). Schools and teachers need to revise their curriculum plans to emphasize the development of these skills over rote memorization and test preparation. High school English classes should also devote time to mock interviews and resume workshops so that students are more prepared to apply for jobs. Science classes could
integrate more laboratory work and provide exposure to real laboratory environments and practices. Students should also be encouraged to develop these skills outside of the classroom through real-world experiences. One way to create students that are more prepared to succeed in the real world would be to expose them to more workplace environments. Schools could coordinate with local businesses and nonprofit organizations to develop workshops, internships, and jobs for high-school students that emphasize practical skills. Instead of making students develop work-readiness on their own, schools should take the initiative and integrate these components into their programs and curriculum. An important balance in integrating these experiences is not cutting back too much on basic knowledge. The fundamentals are still required for standardized testing that is used in college admissions and can impact the amount of funding a school receives.

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<th>EXAMPLES OF WHAT MIGHT BE DONE</th>
<th>POTENTIAL TRADE-OFFS</th>
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<tr>
<td>Improve STEM education through increased funding in early exposure and the development of rigorous and well-aligned curriculum plans.</td>
<td>Students who are not interested in STEM may fall behind. Budget cuts may need to be made for other subject areas.</td>
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<td>Increase exposure to alternatives to college, such as trade school. Allow high school students to tailor their classes based on their career interests and skills.</td>
<td>Students may feel pressured to make career decisions before they are ready. Not all schools have the resources to implement these types of programs.</td>
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<td>Emphasize practical skills over book knowledge and develop more real-world experiences for students.</td>
<td>Students may not learn enough basic knowledge to succeed on standardized tests that influence school funding and college admissions.</td>
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**THEME TWO**

**Freedom and Individuality in the Classroom**

*Do we learn what we want to learn?*

*In our educational system today, a majority of teachers feel as though they and their students are currently in a highly regulated environment (“Perceived Autonomy”) students would benefit from an individualized learning environment in which they can learn material that interests them at their own pace.*
CURRENT SYSTEM

Our current educational system utilizes a multitude of standardized tests for the evaluation of a student’s education statewide and nationally. In fact, from kindergarten to the completion of high school, the average student takes more than 60 standardized tests during his education (Bowman). This forces teachers to ensure that each student is learning the material that they will be tested on so that their classrooms will meet or exceed the national average. One example of this type of standardized learning approach that has been getting coverage in the media lately is the Common Core State Standards program, which “includes English-language arts and mathematics standards” and “addresses all grades (K-12)” (“Existing Guidelines”). The problem with this current system of standardized education is that especially with younger grades, children develop at different rates in different areas and what might be a fair assessment of progress for some children at some point in time will consequently be an unfair or inaccurate assessment of progress or aptitude for others.

PROPOSAL FOR INDIVIDUALIZED APPROACH

One solution for this problem is to adjust our education system so that students can influence the emphasis of the course material they learn and the pace at which they learn it. This will allow for students to learn at the pace at which they are able, eliminating boredom from students who could learn faster and discouragement or falling behind from those who need more time. With regard to students choosing the methods with which they learn, studies have been shown that “a student who designs and uses a good learning sequence will learn more about the topic” (Eiss). Additionally, students who are able to “play to their strengths,” so to speak, in the classroom will prepare themselves for potential careers that utilize these strengths and interests in the professional world.

To successfully implement this system, one would have to develop specific goals for each student and a clear ways to evaluate their learning. This would likely be done by a teacher in conjunction with a student. Students could be allowed to choose from a variety of educational tools, such as computers, iPads or tablets, at-home observations, current events, or group work. These educational tools would have to be
supplemented with some structured learning in order to ensure proper progress. This would take the form of lectures and textbook material. This approach could be conducted with minimal changes to current school facilities, but class sizes would have to be reduced so that teachers could maintain the necessary level of attention towards each individual student and his or her learning approach.

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<td>Eliminate standardized tests, come up with individual assessments</td>
<td>Lack of a nationwide standards increases</td>
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<td>of educational progress.</td>
<td>the risk of falling behind national average in subject</td>
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<td>areas.</td>
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<td>Hire more teachers to lower class size, so that instructors may</td>
<td>Hiring teachers will cost more money to tax payers, and</td>
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<tr>
<td>spend more time with students to develop student-specific learning</td>
<td>put a strain on existing educational facilities.</td>
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<td>sequences.</td>
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<tr>
<td>Allow students to work individually or in groups to learn from a</td>
<td>Approved, information-rich source options would have to</td>
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<tr>
<td>variety of source options, including textbooks, multimedia</td>
<td>be provided for the student, which could be time-intensive</td>
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<td>references, group work, etc.</td>
<td>to procure.</td>
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THEME THREE

Equal Opportunity in the Classroom

*Who gets more attention?*

The option we are focusing on involves the chance for everyone in America to receive a fair and equal chance to succeed in primary school and set him or her up for succeeding in college. As of right now what we find in the education system is an uneven playing field for students of lower incomes, minorities, and inner city kids. The current system bases funding off of how well kids do on the state mandated tests, which at a glance seems fair and balanced, but when looking closer one realizes that most funding goes to suburban schools where the population is a vast majority white and higher income families. (“Revenue Decomposition”)

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STUDENTS OF CAS 138T | DR. VEENA RAMAN | SECTION 3 | TEAM 2
School funding is the biggest problem in our current system in that it affects their technology level, the resources available, extracurricular activities offered, and disadvantages teachers because they do not have the ability to provide for the students an advanced education. Underfunded schools are disadvantaged in the realm of standardized testing as well because they lack the resources available to get good test scores. Good test scores in turn increase funding from the state. Higher income communities are better funded because of the emphasis on school districts in suburbs rather than in the inner city where emphasis is placed on ("Disparities in District Funding") (See figure 2 below). Branching off standardized testing one can see from looking at current models that the relationship between higher income families, who tend to be white, and lower income families, who tend to be minorities, is that the higher income families have a better opportunity to make better overall test scores since they can afford the expensive SAT and ACT booklets and some of the similar classes in which a special instructor helps the kids, who can afford the class, receive higher test scores on the ACT or SAT. Looking at the other side of school, more specifically extracurricular activities, one would be able to see that these are used as an outlet for some for others because they simply love doing this activity, whether it is sports, art, music, or even a book club. For young kids from impoverished areas these activities mean everything, from the inner city kids who live in the area with the heaviest amount of gang activity and these extracurricular activities keep them away from those type of activities and almost gives them a sense of direction to the impoverished kids who live out in the country where they can achieve a sense of escape from reality. Extracurriculars however are the first programs to be cut when a school lacks funding which in turn gives most impoverished kids no where to turn except back to the streets.

**Leveling the Playing Field**

The increasing problem of the unequal levels of education have plagued the American school system for decades, but there are some solutions to this problem. The emphasis on using standardized testing as a valid measure to distribute funding as part of No Child Left Behind, should be eliminated. This is because not all pupils in every
part of the US have the same chance of succeeding on standardized tests. Lower income areas most likely won’t score as well on tests. Therefore, they do not receive as much funding as their wealthy or middle class suburban counterparts.

Another approach is to balance the funding for all schools regardless of district wealth. It’s preposterous that wealthy public school districts in areas with high taxes can afford laptops for all their students while other low income districts nearby can barely afford textbooks. Leveling and matching the academic opportunities from any socio-economic background will help in alleviating the huge academic disparities some areas face.

Leveling the playing field is also necessary in high schools pertaining to AP and IB programs. Schools whose population are largely made up of a low socio-economic class are not able to have as many AP and IB classes which make them look more competitive for college. Part of this problem stems from two reasons. Students at an impoverished school lack the proper preparation for AP and IB classes and do not have as many AP or IB class offerings. Had these students been given the same opportunities as kids in wealthy school districts colleges would be much more willing to consider and accept their applications. With this change, Americans could see even bigger shift than today of lower income students having the opportunity to go to college.
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<td>Removing the part of No Child Left Behind, in which schools receive funding for their test scores.</td>
<td>Schools are less motivated to improve their students standardized test scores. Could lead to a decrease in use of Standardized Testing.</td>
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<td>Balance the funding for all schools in any school district, make sure all kids are given access to the same technology and extracurricular activities as the other kids.</td>
<td>Hard to equally distribute money to school systems and counties. The distribution could lead to corruption in school systems and improper distribution. There is an argument that if the county or township pays the taxes for it they should be able to provide whatever they want. It is not the national government’s responsibility to prioritize and balance education for each individual district.</td>
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<td>Level the playing field in the aspects of IB and AP classes given at impoverished schools, allow students to take these courses so that colleges look equally at both rich and poor kids.</td>
<td>Students at impoverished schools still might not be ready or able to take AP &amp; IB classes. Also maybe not every student is meant to go to college. There is a possibility that colleges could overcrowd which eventually could lead to a job crisis.</td>
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**CONCLUSION**

K-12 education has been a paramount aspect of the United States’ education system since its manifestation during the 17th century. The primary education system has continually shown a direct proportionality with the growth of our nation and our economy, growing bigger and bigger each year. More students are being enrolled each year and more students are graduating high school each year. Throughout American history, K-12 education has been key to our overall economic development and growth as a country. We’ve focused too much on “the right way” to do things. There is hardly any room for individualization, there is hardly any room for creativity, and there is hardly any room for personal growth. What’s more, students are graduating high school unprepared for the workforce. The United States is looking to take back its reign as having currently, the United States is facing serious problems in regards to world competition with other nations, and this stems from our education system. Countries like China, India, and Belgium are making leaps and bounds as we sit back and stick to our old ways. **Change is necessary. Reform is needed.**
the leading economy in the world, but the lack of preparedness from high school graduates with respect to the workforce is detrimental to the entire system. The gap between academically advanced students and those who struggle academically continues to increase with the implementation of programs like AP and IB classes. This proves difficult for all students to get the education they deserve, hurting their future and society’s future in the process.

How should K-12 education help mold the society that we want? This guide touches on three options to consider, showcasing the benefits and trade-offs of each. Please keep in mind the myriad questions that come from weighing these options. For instance, how important is K-12 to future society? What are the costs of changing a system that we have had in place for so long?

School boards and school principals can work towards various goals, but a movement cannot occur without support to back it. As we think about the role of K-12 education in the future of our country, it is vital to share ideas with fellow citizens. This guide is intended to launch that exchange of ideas.

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REFERENCES


State of America's Schools: The Path to Winning Again in Education. N.p.: Gallup, 2004


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