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# Can Public Education be Saved? An argument for educational reform

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Public Education Reform

Can Public Education Be Saved?  
An Argument for Educational Reform

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Abstract

Education, a key to later success, needs to be the number one priority. However, the American of public education has many systemic problems that are inhibiting children from reaching their full potential. This literature review first examines the colonial roots of American education and briefly tracks the development. Then, four major systemic problems are addressed: the overreliance on standardized testing, teaching methods and curriculum, lack of creativity, and how the cycle of poverty impacts learning. Finally solutions are discussed, with the ultimate recommendation being to adapt the Montessori Method.

Key words: Montessori, Educational, Reform, Testing

“We have sold ourselves into a fast food model of education, and it's impoverishing our spirit and our energies as much as fast food is depleting our physical bodies.”

(Robinson, 2010, min. 13)

## **Introduction**

Given that education is an avenue to later success, society should be quick to perfect educational methods (Dushi, 2012). Unfortunately, over the years the quality of public, American, K-12 education has actually decreased. A 2007 study showed that barely one in every four high school students were ready for college level material and courses (ACT, 2008). One conclusion from this data indicates that nearly 75% of high school students are unprepared for the demands of college course work, making them more likely to fail college courses, enter college taking remedial courses or never to enter college at all. Other studies show that only 70 percent of high school students graduate (Alliance for Excellent Education, 2006). Of the students that do graduate, less than half are academically prepared for further education (Alliance for Excellent Education, 2006). Nearly 40 percent of college freshman have to take remedial classes. This prolongs graduation, increasing student stress and the need for student loans. Only one in five (1/5) students in two-year institutions graduate within three years. Additionally, only two in five (2/5) graduate from four-year programs within six years (Lewtin, 2009). College tuition, as well as rates of poverty, have drastically increased, removing, even the option of college for many students (Clark, 2012 & Bishaw, 2012). Public education needs to do more to prepare students for future life and career success. This paper proposes that it is completely unrealistic to lay the blame for these failures on students and teachers alone. There are greater, systemic, problems in the American public education system that fail to adequately prepare students for the future.

In the United States, all states have compulsory school attendance laws requiring students to attend school (Lunenburg, 2011). The most common form of school in the United States is ‘free’ public education, a system operated with decreasing American tax dollars, allocated from the government. Historically, when talking about school, many imagine a small, square room with perfectly straight rows of student desks filling the class and a single teacher desk situated at the front of the room. Throughout this paper, this will be referred to as ‘traditional public education.’ Traditional public education is a mass system, attempting to teach the same thing, at the same time, to different kids all across the country. But how did this become the standard for education and should education be standardized?

As Mark Twain once said, “I have never let my schooling interfere with my education” (Good Reads, 2012, para. 1). There is so much more to learning than simply preparing students to pass a test. This paper seeks to uncover the roots of modern, American education and track the development. A mass educational system does not come without problems and one can certainly argue that the American system of public education is riddled with them. These problems, such as, overreliance on standardized testing, teaching methods, lack of creativity, and the fact that too many students fall through the cracks shall be addressed as an argument pushing for educational reform. Finally, solutions shall be discussed. This will include current trends in education that have recently been made available to students, as well as evaluating key elements of success in the Montessori Philosophy. If society truly wants to invest in the future, it must invest in education. However, in order to truly invest in education, people must first be willing to examine the current educational system outside the scope of available funding. Education, and the success of future generations, is too important to lock into a miniscule budget. Only when the decision is not based solely on money, will people be able to see the educational models and philosophies

that children need in order to reach their full potential. Funding and statistics limit education and, therefore, limit the minds of children, and the future.

## **Historical Influences on Education**

### First Settlers

Infants, regardless of species, race, or economic status, have always relied on their parents to learn vital skills needed to survive. Children learn how to find food, how to communicate, and how to conduct themselves according to societal traditions and rituals. The first few years of life, coined ‘sensitive periods’ by Dr. Maria Montessori, greatly impact later learning (Seldin, 2006 [B]). As humans emerged and developed, education continued in much the same way, that is, until society became civilized. The current public school system is rooted in colonial America (Gelbrich, 1990). Heavily influenced by early Anglo-Saxton immigrants, the first major goal of U.S. education was literacy, specifically, widespread Biblical literacy (Blumenfeld, 1981). Education, therefore, was not only a means of insuring literacy, but also acted as a vigorous religious discipline. Even without formal education, the population was highly literate, enough to not only read the King James Bible, but also any other published work (Blumenfeld, 1999).

Long before the first one-room school house, education was generally left to parents, private teachers, and religious denominations (Public Broadcasting Service [PBS], 2001). Basic education was limited to reading, writing, calculating, and religious instruction (Gelbrich, 1990). Upper class families had the option of sending their children to Latin grammar schools, where additional subjects were covered. However, although highly valued by the Puritan society, education was still largely informal (Gelbrich, 1990). Schools existed, but attendance was not yet

mandatory (MacLeod, 2002). The Bill of Rights, written in 1791, makes no mention of education, leaving the task of educating young people to the state, where it continued to fall on parents, community organizations, and churches (Sass, 2012).

### Unitarians

It was not until 1805 that individual states took a strong interest in public education. In 1805, the Unitarians took control of Harvard University, using their power to influence all levels of education (Cambridge, 2011). The Unitarians modified the foundation of public education and curriculum that had been developed by the Calvinist settlers in Massachusetts (Blumenfeld, 1981). The Unitarians brought with them new religious views, which resulted in changes in education. They believed Christ to be a great teacher, though not divine (Blumenfeld, 1999). While reading the Bible was still important, the Unitarians promoted the frequent use of reason, both in biblical readings and life (Channing, 1819). Therefore, reading the Bible was no longer a guarantee to salvation; reason and critical thinking were also believed to be important components.

With the adaptation of these new, Unitarian ideals, a formalized school system was born, utilizing reason-based education. The Unitarians employed propaganda, social fervor, and political action to spread their opinions across the country and to create laws regarding education (Blumenfeld, 1999). In 1852, Massachusetts was the first state to enact compulsory educational attendance laws, requiring that children attend school (Sass, 2012). By the 1870s, the public school system was well established in the United States (Blumenfeld, 1999).

### Common Schools

The schools that emerged in the early 1900s were known as ‘common schools’; schools now remembered as the traditional one-room school houses. Many features once common in schools of this era have been changed, things that never should have been lost. In contrast, the aspects that have remained the same are the practices that hinder children the most. In the one-room school house, students of all ages and abilities were taught together, in the same room at the same time (PBS, 2001). During this time, there was also an exceptionally high level of parent involvement in the schools (Mann, 1843). The community valued education, and therefore the community and the parents came together to maintain the buildings (Mann, 1843). Everyone contributed, by whatever means they could. Farmers would supply wood, or other forms of fuel, to keep the school house warm during the winter months (PBS, 2001). Parents with carpentry skills would build schools desks, by hand, for the children and teacher. All the parents would take turns stocking and cleaning the school stables; the stables housed the horses that many children used to travel to and from school each day. In addition, families would house the school teacher; the teacher, generally an unmarried woman, would rotate from family to family. Finally, teachers taught students good manners, among other things such as arithmetic, literacy, and penmanship (PBS, 2001). These are all aspects which have been lost and are no longer prominent in education.

Many less valuable concepts, put into action in the one-room school house, are still practiced in schools today. One of the defining characteristics of traditional, public education is based on one, specific theory of how children learn. The philosophy of the one room school house was heavily influenced by the teachings of philosopher John Locke. Locke claimed that the mind begins as a blank slate, or tabula rasa; a slate that has to be filled with facts and

experiences (Northern Illinois University, 2012). John Locke described the importance of experiences in learning. However, many misinterpreted his theory, taking it to mean that the human mind had few innate capabilities. This misinterpretation led to the prominent use of methodical teaching practices (Northern Illinois University, 2012). The one room school house is known for utilizing repetition, memorization, and recitation to ‘teach’ children facts about mathematics, history, language and much more (PBS, 2001). These teaching techniques are still very much relied upon in today’s public schools.

### Workforce Demand

Throughout American history, school and the nation’s economic standing have always been closely tied. The needs of the American workforce have dictated the subjects taught to American children. In the early 1900s, the United States was in the midst of the industrial revolution; 80% of the available jobs were blue collar, labor intensive jobs (Robinson, 2001). Only 20% of students became professionals, such as doctors, lawyers, and teachers (Robinson, 2001). Therefore, 80% of American children were taught a simplified version of the school’s curriculum. Children were, and still are, highly encouraged to choose elective classes based on usefulness, or marketability. Subjects such as math, science, and foreign language are considered more marketable and more likely to help students obtain jobs, specifically blue collar jobs. This mindset has led to the reallocation of funds. More money, and emphasis, is placed on these ‘useful’ subjects, while courses like art, theater, music, and even physical education are cut left and right (Robinson, 2001). Decisions like these, made by officials at the top of the pyramid, cause drastic changes to the bottom of the pyramid, the students in the schools. This top-down model of decision making has been shown to impede innovation and trust (Connor, 2012). In the business world, this is seen when the manager makes decisions that affect the entire company,

without consulting anyone in the company (Connor, 2012). Generally in education, political officials make and change regulations that directly affect schools, teachers, and students; however, these officials do not have the necessary background in education to make informed decisions, nor have they solicited opinions from school professionals.

### **Systemic Problems**

With an idea about where the educational system began, one can begin examining the problems in the system. Education was, and should be, the ‘great equalizer’. Children should have access to good, quality education and be given the skills to have a bright future. A good, quality education does not mean the same education for everyone. In many cases, education is creating more learning gaps than opportunities. One can certainly argue that there are many problems plaguing the traditional American education system. However, this literature review reveals four main concerns: the overreliance on standardized testing, teaching methods, lack of creativity, and the vast number of at risk children that continue to fall through the cracks.

### **Standardized Testing**

Alfred Binet, a world leader in intelligence testing, developed the first measurement instrument, in France, 1905; he partnered with Theodore Simon to create the Binet-Simon Scale (Sass, 2012). This tool was created and used to be an effective means of measuring student intelligence, with the overall purpose being to identify children with possible mental retardation (Imhoff, 2000). Eleven years later, in 1916, a team of graduate students from Stanford University revised the assessment and released the popular Stanford-Binet Intelligence Test (Fletcher, 2009). With this new scale, came the concept of the Intelligence Quotient (IQ) (Sass, 2012).

Student testing became popular in 1926, when the Scholastic Aptitude Test (SAT) was first administered (Sass, 2012).

American children are given an unprecedented and globally unparalleled number of tests (Kohn, 2000 [A]). Testing has become so ingrained in schools that many people, students, teachers, parents, and educational staff included, have forgotten the initial purpose of such tests. The standardized test was first developed to help students who were struggling in school; to recognize children with learning disabilities that would benefit from being placed in a special classroom (Imhoff, 2000). By comparing student's scores to an accepted national average, teachers were able to pinpoint children that were falling behind. There are still many assessments used today that help professionals diagnose and label specific learning challenges or disorders, but standardized testing has greatly evolved.

Today, most children are given their first test within seconds of being born, the most common being the APGAR (Appearance, Pulse, Grimace, Activity, and Respiration), and from there, children face a continual onslaught (Nemours Foundation, 2012). Standardized tests range from high-stakes, national scantrons (ACT, SAT), to a series of specific observational tools (APGAR, checklists, rating scales, etc.), to less formal teacher designed materials. The common thread being that each assessment tool uses a black and white grading scale where the answers are right or wrong, good or bad, pass or fail. A low, or bad, score on formal assessments no longer alerts teachers as to who in class may have a learning disorder. Instead, test scores indicate who has been paying attention in class and who has memorized all the material. For the most part, these tests tend not measure what students have learned, but rather what the student was able to memorize, recognize, and circle on paper. The majority of students forget this information once the test is completed (Benne & Tozer, 1987). So what then was the purpose of

the test? Who does the test benefit? Teachers, and others, may say the test benefits students because students can see how they are doing in the class. Teachers might also say they themselves benefit from testing because tests provide feedback about what, and how, material is being taught. And yet, if students are merely memorizing information for the sake of the test, only to forget it shortly after, the test does not accurately provide any information about what students are learning. So again, who does testing benefit?

In many states, legislators at the top of the decision-making pyramid claim that testing is essential to determine school funding; the higher the districts test scores, the more money those schools receive (Independence Hall Association, 2012). But this decision does not take into account the needs of individual schools and children. What are schools across the nation doing differently to prepare students for these tests? Shouldn't lower scores alert the government that those districts need more funding for better educational resources? Generally, it is the schools in wealthy neighborhoods, with wealthy families, that obtain the highest test scores. This does not mean that these teachers are better or that these students are any smarter. It does, however, show that money, and experiences born of money, matters. A study conducted by, Rucker Johnson, associate professor in the school of public policy at Berkeley, found parental wealth to be correlated with higher educational attainment (2012). Higher educational attainment begins in high school, and before, to ensure the students are accepted into a good college or university. These children want to do well in school and consequently push themselves and study to memorize facts in order to do well on tests. Their scores then bring more money to their school so they can have the latest technological advances. And yet, students just one town over may be working with books that barely stay together, while the school spends funding on much needed operational costs, building repairs, and supplies that parents are unable to provide. Areas with

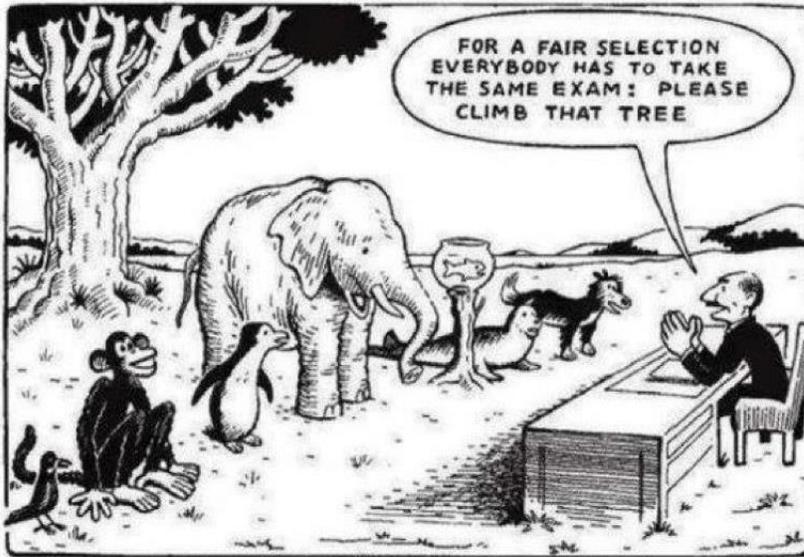
low test scores are generally low income neighborhoods (Kohn, 2000 [A]). Low-income parents do not always have the ability to send their child to school with the required pack of markers and cannot provide the classroom with hand sanitizer and tissue boxes. The school is then forced to provide these things for the students and classrooms, further decreasing their resources. Fair does not mean equal; different schools may face vary different challenges in their communities and have different problems that must be addressed within the same budgetary constraints.

Furthermore, the adults in low-income communities may not have gone through higher education and therefore do not place the same value on education, or rather do not have the luxury of long-term educational planning. Their children are forced to deal with daily financial and life hardships; they are spread too thin and education is pushed aside. Many things are stacked against them, getting a good education in a poor school does not take priority. An example of how income affects school performance was described by Alfie Kohn, in his book *The Case Against Standardized Testing*; a study conducted in Florida that examined the relationship between student test scores and the number of students that qualified for free or reduce lunch (low income students). Every school in which less than 10 percent of the student population qualified for free lunch scored above a 'C' (Kohn, 2000 [B]). Additionally, every school in which more than 80 percent of the students qualified for free lunch scored below a 'C' (Kohn, 2000 [B]). Further examples, from various locations, can be found in Kohn's book. Low test scores leads to less money for the district, even though these schools need the most help. If the nation waits for their test scores to improve first, these students will never get the help they need and will never have the chance to reach their potential. Further examples shall be examined later as they relate directly to a cycle of poverty for at-risk students.

Testing format also sets many students up for failure. Standardized tests, in and of themselves, can only test certain things. Tests can only evaluate skills that can be counted or measured, specific facts and knowledge (Sanchez, 2010). However, according to psychologist Howard Gardner, there are nine different intelligences, or nine different ways in which people interact with the world (Gardner, 2006). Gardner proclaims that no two people have the exact same intelligence configuration; everyone possesses different amounts of the nine styles (linguistic, logical/ mathematical, musical rhythmic, bodily/kinesthetic, spatial, naturalist, intrapersonal, interpersonal, and existential) (Gardner, 2006). Seven or eight of these intelligences are talked about, and sometimes influence teaching styles or methods. And yet, standardized tests can only measure a few types. Students that learn in other ways are at an immediate disadvantage. Furthermore, educator Bill Ayers proposes that tests cannot account for “initiative, creativity, imagination, conceptual thinking, curiosity, effort, irony, judgment, commitment, nuance, good will, ethical reflection, or a host of other valuable dispositions and attributes” (Kalantzis & Cope, 2012, para. 1).

Even Albert Einstein comments on the matter saying, “Not everything that can be counted counts, and not everything that counts can be counted” (Moncur, 2012, para. 1). As depicted in the cartoon below, different learning styles allow individuals to possess different skills and different challenges. It does not mean that one set of skills is more valuable than another. From a family science lens, monetary worth is not the only assessment of value. Society requires economists, scientists, and politicians just as much as it needs artists, authors, and athletes. To excel in each of these areas requires high level of talent in the specific discipline. Comparing the skill of a scientist and athlete on the same formal assessment is like evaluating

both a monkey and an elephant by their ability to climb a tree. It does not adequately measure either of their unique talents.



(Climb That Tree, 2012)

Learning styles and intelligences are not the only way in which standardized tests are unfair to students. Across the multitude of different regions and the melting pot of cultures found in the United States, location and background play significant roles in a child's education and learning experiences. Stafford Hood, a professor of psychology in education at Arizona State University, stated that, "there has been a long history of bias in the development of standardized testing" (Rammohan, 2007, p. 8). Test makers have taken this into account when revising and writing tests, but the problem has not entirely been fixed (Rammohan, 2007). In fact, many standardized tests limit test questions and only select questions that are answered correctly by students who do well on the overall test (Sanchez, 2010). This means that questions that are only answered correctly by students that did *not* do well on the overall test, predominately minority groups, are often removed from the test (Sanchez, 2010). Essentially, questions that minority students are more likely to answer correctly are the questions that are discarded, which continues to increase the test bias to more privileged, white students. Jay Rosner, executive director of the

Princeton Review Foundation, has conducted research primarily on SAT scores. This study revealed some startling information, specifically that “every single question carefully preselected to appear on the test favors whites over blacks” (Rosner, 2003, para. 1). By this, the author means that higher percentages of white students answered the questions correctly over black students. The study also found that Latino students were similarly affected, scoring only slightly higher than blacks (Rosner, 2003). Many other tests, such as the LSAT and other popular admissions tests, are developed using the same question selection methods, making the pattern of ‘white preference’ a wide spread problem (Rosner, 2003).

Furthermore, many students simply are not motivated to do well on tests or in school. This lack of motivation on the part of the students often reflects dissatisfaction with what, and how, material is taught or the lack of input students have in their own learning (Kohn, 2010). There is also evidence that most students do not gain much from working hard in high school (Bishop, 1988). The best jobs a student can hope for, with only a high school diploma, include things like cashier, cosmetologist, and various assistant positions (McKay, 2012). The vast majority of jobs now require a college degree. According to Everything Small Business Journal, 60 percent of jobs will require a college degree by the year 2018 (2012). As the number of young professionals with college degrees increases, the degree itself will mean less and less. However, in today’s economy, a college degree is nowhere near a guarantee of a job. In 2011, over 53 percent of recent college graduates (under 25 years old with a bachelor’s degree) were jobless or underemployed (Weissmann, 2012). Many recent graduates are working jobs that do not require them to have a degree, jobs they could have gotten directly out of high school. Today, employers want to hire people with skills; ones that cannot be learned from a textbook in a classroom (Robinson, 2001). Students must do well in high school and on standardized tests to get into a

respected college or university. After more schooling and more testing, students are ready to enter the workforce, but there is often no job for them. Students, therefore, have no motivation to do well in high school, or on standardized tests because hands on learning, often lacking from school, can get students further.

### Teaching Methods and Curriculum

Campbell's Law states that, "the more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor" (Campbell, 1976, p. 49). If one examines this law as it relates to education and standardized testing, it becomes clear that standardized testing is the quantitative social indicator. This makes district funding the important social decision made based on the indicator (the standardized test). This further means that school improvement and student learning are the social processes to be monitored (Norvell & Ratcliff & Hunt, 2010). Essentially, Campbell's law states that standardized testing is a potentially corrupting influence on education. Some critics even go so far as to say that basing such vastly important decisions, such as school funding and student intelligence, on the outcome of any single test is ethical abuse (McLaren, 2007). A single test is but a snap shot of knowledge and experience. The results can change based on the student's mood, what they had for breakfast, and anything else that is on their mind on a given day. The needs for states, districts, and individual schools to perform well and produce high test scores has drastically impacted the everyday classroom and greatly inhibits teachers' ability to teach and students' ability to learn and grow (Robinson, 2009).

No Child Left Behind was introduced to the nation in 2001 (U.S. Department of Education, 2012). This program laid out many teaching expectations, guidelines, and proposed benefits. Due to this bit of legislation, testing now formally begins in the third grade (Stipek, 2006). However, effects can be seen trickling down all the way to kindergarten (Stipek, 2006). In order for students to pass the third grade test, they must study certain things in their third grade class. For students to understand these third grade topics, the students must be given basic knowledge in the second grade, which means children first need to be introduced to these subjects in the first grade. In order for children to be prepared to learn and be tested in the first grade, they must learn to count, read, and write in kindergarten. As of 2005, 17 states had developed comprehensive school readiness factors for children entering school, and their families (School Readiness Indicator Initiative, 2005). However, studies indicate that kindergarten teachers are more concerned about the child's ability to interact with others than with academic knowledge (Sherley & Higgins & Clark, 2008). And yet, despite the realistic expectations of teachers and the varying initial skills and knowledge of the children entering kindergarten, there is still the expectation that children will be prepared for the national or state test on a set day. As a result, what ends up happening is that teachers merely teach to the test, as opposed to taking the time to engage the individual child's interest. This greatly inhibits a teacher's freedom in the classroom. The test takes place at a certain date and time; the teacher is responsible for covering all the necessary material prior to the test. For example, in Michigan, the Michigan Educational Assessment Program (MEAP test) is given annually to children in grades three through eight (Macamb Intermediate School District, 2012). The test is administered in early fall and is intended to assess five area of knowledge, gained the previous year (State of Michigan, 2012). However, the students have been out of school all summer. It falls on the new

teacher to drill the students and review material from the previous year in preparation for the state-wide MEAP test. The teacher has only a month or two to review a year's worth of material that the students forgot over the summer. This makes it very difficult for teachers to take their time with difficult subjects or for them to prolong sections that excite and engage the students. Unfortunately, to meet the curriculum demands, teachers, especially in middle and high school, fall into the habit of lectures and PowerPoints; a technique that aims to teach the masses, not individual students with specific needs and localized goals.

The promotion of standardized testing and subsequent effects on teaching only engage specific learning styles, the 'academic' learning styles. However, as Sir Ken Robinson, Howard Gardner, and many others would proclaim, everyone learns differently, at different times, and has different strengths and talents. Some of the world's greatest minds did not do well in school (Robinson, 2009). When young children are growing and developing, doctors and professionals recognize age ranges for developmental milestones. This is done because professionals realize that children all develop at their own pace. Children are not considered behind if they take their first steps at 13 months instead of 9 months (Baby Center Medical Advisory Board, 2011). However, once children enter school, they are suddenly expected to learn things at the same time and on the district, state, and national time-line.

### Lack of Creativity

Generally the test, and therefore the teacher's preparations, encourages students to learn and supply a single correct answer to the test questions. In school, these answers can often be found at the back of the textbook, but students are told not to look. This method of teaching and testing is theorized to deprive students from the one trait that is guaranteed to benefit them in the

long run: creativity. Creativity includes the arts, but also innovation, adaptation, and exploration. The world is an ever growing and changing place. It is difficult to predict where society will be in the next 30 years; chances are many of this year's kindergarten class will end up working in jobs that have not even been created yet (Robinson, 2009). How is education supposed to prepare students for an unknown world and job market? This can only be done by allowing students to explore their unique, personal passions, whatever their passions may be.

Without creativity, society would never move forward, and yet, creativity is the one trait schools fail to cultivate. Sir Ken Robinson once said,

If all you had was academic ability, you wouldn't have been able to get out of bed this morning. In fact, there wouldn't have been a bed to get out of. No one could have made one. You could have written about the possibility of one, but not have constructed it (2001, p. 81). Were mathematical and verbal intelligence the only kinds that existed, ballet never would have been created. Nor would abstract painting, hip-hop, design, architecture, or self-service checkouts at supermarkets (2009, p. 49).

In fact, many schools are purposely cutting creative outlets like art, dance, drama, band, choir, and even physical education in favor of more 'academic' subjects. In response to budget cuts, district officials have deemed these subjects 'nonessential', but then wonder why their students are unimaginative and uninspired in the classroom (Robinson, 2009). With the elimination of these programs, the idea is for students to spend more time learning and studying the 'academics' such as math, language, and science (Trost & Van Der Mars, 2009). The hope is that if students spend more time in these subjects, they will do better on the standardized tests. In theory, this sounds plausible, and yet numerous studies have proved opposite effects or no change.

In the early 1990s, researchers from the University of California found that listening to 10 minutes of music by Mozart before certain sections of an intelligence test was correlated with

increased test scores (Evans, 2009). A similar study was conducted again in 1999 by a UCLA professor. He found that high school and middle school students that were strongly involved with music or theater scored 16 to 18 points higher, on average, than their peers who were not involved in the arts (Evans, 2009). In 2004, a three year study examined school and test performance in relation to various art disciplines and found many correlations between an involvement in the arts and higher academic performance (Gazzaniga, 2004). Similar studies have also been conducted on the relationship between school success and physical education. Many researchers that have looked at the effects of increasing or decreasing students' time in physical education have found little effect on school performance, but negative effects on overall well-being, especially in areas of physical health and body weight. Other studies have even shown a positive correlation between increased physical activity and enhanced school performance (Trost & Van Der Mars, 2009). It is evident from these, and many more, examples that school performance is not improved by cutting the arts, but rather by *including* the arts. The rationale for cutting programs, in favor of more 'academic' subjects, simply does not hold up.

#### At-Risk Students and Poverty

Previously, problems of white preference on standardized tests and the correlation between income and test scores were examined. Further discussion of at-risk students and how poverty inhibits education is needed. It is not only poor school districts that are an area of concern, but any low-income student. These children are the ones that truly need the most, but are continually the ones the system cannot reach.

Children living in poverty, or low-income households, face many challenges to education before even leaving for school. "A full stomach and clear mind are prerequisites for learning.

Many children who live in poverty have neither” (Armstrong, 2010, p. 49). An inadequate diet, lead poisoning from an old house, and even asthma are three conditions, more prevalent with low-income homes, that can interfere with learning. Additionally, environmental stress greatly hinders a child’s ability to learn and focus on schooling (Armstrong, 2010). Factors such as a crime and drug infested neighborhood or a single-parent household increases stress on the family and the child and, unfortunately, takes higher precedence over education.

As previously mentioned, many high-stakes tests have a proven white bias. However, this bias is not really an issue of color, but rather of poverty. Minority racial groups, particularly Black, Hispanic, and Asian, have higher rates of poverty (National Poverty Center, 2012). According to education author Alfie Kohn, many questions require specific background knowledge, knowledge that privileged children are far more likely to possess (Armstrong, 2010). Evidence also shows that low-income schools, which are unattractive to teachers and hard to staff, are forced to assign teachers to instruct subjects outside their area of expertise, meaning that students in high-poverty schools are 77% more likely to be taught by an out-of-field teacher (Armstrong, 2010). This decreases the quality of material taught to students, further increasing their educational disadvantage.

Similarly, public schools are based on language and literacy. Although it is a myth that states calculate the number of prison beds they will need based on third grade reading scores, there is a strong connection between literacy and future success (Bunker, 2012). Studies indicate that struggling third grade readers are four times more likely to drop out of school than proficient readers (Hernandez, 2012). Low literacy is also strongly correlated with future unemployment and engagement in crime (Clark & Dugdale, 2008). Furthermore, there is a strong link between literacy and poverty, indicating that many people in poverty are not literacy proficient and,

possibly, completely illiterate (United Nations Educational, Scientific and Cultural Organization, 2010). Therefore, if there is not a strong, early reading intervention for students, academic advancement will be halted, regardless of the student's innate intelligence. To many, a standardized test would indicate extraordinarily low chances of academic success, as opposed to alerting professionals to the need for intervention.

As the nation places more and more emphasis on high-stakes, standardized testing, as opposed to individualistic learning, the harder it will be to end the cycle of poverty. It is unfair to hold every student to the same set of standards, especially considering that not all students receive the same quality of education (Sadker & Zittleman, 2012). Low-income students are placed at an immediate disadvantage. There is a vital need for education to be all inclusive and supply students with, not only the academic subjects, but also creative outlets and practical life skills; many students are not fortunate enough to receive these experiences at home.

## **Solutions**

Many of the modern American school system's problems center around the overreliance on standardized testing. It is important for teachers to evaluate their students in order to assess development and progress, but the effects of too much standardized testing is hurting future generations by limiting teaching methods and depriving students of their creativity and desire to learn. So where should public education go from here?

## Current Trends

Public schools across the nation, while still relying heavily on standardized testing, have introduced other programs and models designed to give students individualized education. School professionals are recognizing gaps in education and are desperately looking for solutions.

Various schools across the country have implemented programs such as Steven R. Covey's 'The Leader in Me', Reading Recovery, and others (Franklin Covey, 2012 & Reading Recovery Council of North American, 2012). These programs have various degrees of success in helping create more respectful school environments and in attempting to reach the children that would otherwise fall through the cracks (Franklin Covey, 2012 & Reading Recovery Council of North American, 2012). Another, more popular educational trend is online learning. However, these supplementary techniques are just patches trying to fix a failing system; it is not enough.

### *Online Learning*

Online learning, also called digital or virtual learning, became popular in response to large, monetary cuts to the public school systems. During the 2007-2008 school year, an estimated one million students took part in an online course (Lips, 2010). In 2009, the U.S. Department of Education published an extensive literature review focused on the benefits of online learning (U.S. Department of Education, 2010). Although the article points out that vast majority of the studies reviewed by the Department of Education were not conducted in K-12 settings, the overall conclusion found that, on average, students in online learning environments performed slightly higher than students in traditional face-to-face learning environments (U.S. Department of Education, 2010). In the past few years, more and more research has been done specifically on digital learning for K-12 students since an increasing number of schools are adding online courses as an option.

In theory, virtual learning offers many unique features to students that face-to-face schooling cannot. One benefit is that students, in any location, can have access to high quality teachers across the nation (Lips, 2010). Teacher quality can vary from teacher to teacher, based

on where they obtained their certification and personal attributes and beliefs. Access to good teachers often depends on geographic location; a student's location and financial means can limit their educational exposure (Lips, 2010). Additionally, some teachers are simply more effective teaching particular types of students and learners. With the option of online education, it is proposed that students can take courses from teachers in different districts, even different states. Since students should have greater access to teachers outside their district, teacher quality is likely to improve to attract students.

Another proposed benefit is flexibility for both teachers and students. Teachers would have both career and personal flexibility. They could pursue other career options, while teaching, and have greater flexibility to teach from home and balance a career and family (Lips, 2010). Flexibility for students means they can set their own schedule and work at their own pace (Northwest Educational Technology Consortium, 2005). This flexibility would be exceptionally beneficial to student athletes that travel the country and state, as well as for students in families, such as military families, that move frequently and must change schools often. Online education would minimize educational disruptions. Other personal factors that can impede education, such as a death in the family or an extended hospital stay, could also be overcome with the option to 'pause' learning without falling behind. Digital learning has the potential to provide children with a customized learning experience (Lips, 2010). Online, it is suggested that students can receive instruction at their own pace and in ways tailored to their specific interests, and achievement levels. With increased customization, learning can be more enjoyable and productive (Lips, 2010). The benefit with the highest universal appeal would be cost. Virtual learning would lower the cost of education because schools would be able to rely more on technology and less on labor (Lips, 2010).

Although there are many benefits contributed to online learning, there are also drawbacks that must be considered. The 2009 literature review conducted by the U.S. Department of Education, mentioned previously, found no studies comparing face-to-face learning to online learning for K-12 students, before 2006 (U.S. Department of Education, 2010). And yet, this research led to K-12 implementation without knowing effects specific to K-12 students. Few studies have been conducted since online K-12 learning has become popular, but results are mixed. Most studies have been done with high school students, showing little to no academic improvement (Center for Public Education, 2012). Other initial reports depict poor academic performance and low rates of graduation for full-time, online students (Center for Public Education, 2012). In order to determine the full positive or negative effects, rigorous research must be conducted. Future research must include effectiveness for various learning styles and different types of students, as well as the effectiveness of different online education practices (U.S. Department of Education, 2010).

Online education articles suggest that students will have access to teachers across the state and country, but this has yet to be proven. Additionally, one must consider the consequences of lower cost education. If elementary school students spent one hour per day in virtual education instead of face-to-face education, districts could reduce elementary staff by one-sixth (Lips, 2010). Would fewer teachers and more job cuts really be the best solution for the nation? Not to mention the fact the low-income students may not have access to the technology needed to engage in online learning, making the option completely inaccessible.

Furthermore, digital education increases student isolation (Northwest Educational Technology Consortium, 2005). Since online classes would remove the presence of physical teachers and classmates, students cannot rely on verbal or visual clues to convey messages.

Therefore, students that lack self-discipline, motivation, or adequate technical skills will struggle in an online setting (Northwest Educational Technology Consortium, 2005). The more online education a student enrolls in, the fewer social interactions are experienced in school. The only way students will learn appropriate social skills is to interact with other people. Building social skills helps students learn to cope with anger, peer pressure, and how to apologize; it also teaches students about appropriate behavior, sportsmanship, compassion, and relationships (Social Skills Central, 2012). Without interactions with other people, students cannot learn how to greet others, hold a conversation, or cooperate. Immersion in online learning deprives students of the opportunity to build their confidence through social interactions (Social Skills Central, 2012). Children that struggle with social skills, such as children on the autism spectrum, would likely prefer to take online courses, but then they would have few experiences to learn how to interact with others.

Albert Einstein said, “I fear the day that technology will surpass our human interaction. The world will have a generation of idiots” (Good Reads, 2012, para. 1). In order for online learning to be effective, it would have to exist in conjunction with, not instead of, traditional face-to-face learning. However, this solution still does not present ideal educational environments for students because it does nothing to address the systemic problems previously put forth in this paper.

### Montessori Philosophy

Dr. Maria Montessori, born in 1870, a time when women’s voices were not valued, was the first woman to ever graduate from medical school in Italy (Kramer, 1976). Because of her gender, Dr. Montessori was not allowed to practice on the general public (Seldin, 2010). Instead,

she was given charge of a group of mentally retarded children in the slums of Rome. As she studied and observed these children, she came to the realization that even children with special needs can learn, when given the right environment. She began developing her educational philosophy and determined that if her methods worked so well with special needs children, 'normal' children would experience even better results (Seldin, 2010). Montessori opened her first school, the Casa de Bambini (Children's House in Italian) in 1907 and her method was an overnight success. Montessori schools and philosophy spread across Europe instantly (Seldin & Epstein, 2006). Her work led to three Noble Peace Prize nominations in, 1949, 1950, and 1951 (Kramer, 1976).

Around the time of World War II, the Montessori Method caught the attention of German Socialist, Adolf Hitler and Italian Fascist, Benito Mussolini (Seldin & Epstein, 2006). Mussolini helped Montessori schools and teacher training centers become established in Italy. However, Mussolini was fighting a war and needed soldiers; he demanded that all students join the Young Fascists and wear student uniforms. When Dr. Montessori refused to raise child soldiers, she was exiled from Italy (Seldin & Epstein, 2006). Her schools and training centers were shut down and all her books were burned (Kramer, 1976). Montessori then moved to India with her son (Kramer, 1976).

While there are many acceptable, supplementary programs that public schools across the nation have added, nothing can compare to immersing a child in the Montessori philosophy of education.

The fact is that given the challenges we face, education doesn't need to be reformed -- it needs to be transformed. The key to this transformation is not to standardize education, but to personalize it, to build achievement on discovering the individual talents of each child, to put students in an

environment where they want to learn and where they can naturally discover their true passions. (Robinson, 2009, p. 238)

The American education system needs to be renovated. Although many alternative education programs and curriculum's exist, the ideal solution would be to replace the current education system with the Montessori Philosophy. Some schools have adapted Montessori methods in a public school setting, but doing so would just be another supplementary technique.

Unfortunately, the Montessori name is not a trademark; anyone can use the word to label education regardless of their training and education (International Montessori Index, 2012). The truest form of Montessori comes from the Association Montessori Internationale (AMI), the organization founded by Maria Montessori, herself, in 1929 (Kramer, 1976).

The Montessori Method and philosophy has not changed much in the past century. The overall goal is to raise free-thinking, independent, and engaged individuals. The philosophy is very complex and works as a system (Seldin, 2010). Dividing out specific aspects is difficult because each aspect plays an important role in providing the demonstrated personal and academic success for students. The unique interaction of the various elements in the Montessori classroom work together similarly to the way in which the different levels of Bronfenbrenner's ecological systems theory impact each other (Paquette & Ryan, 2001). Below is only a sample of the unique characteristics that build the educational framework.

### Environment

In the Montessori classroom, the child, teacher, and the physical environment work together to create a successful learning experience. Incorporated into the environment are many

unique characteristics including the concept of peace education, special materials, and the balance of independence and structure.

The child's first responsibility is to themselves. Montessori children are encouraged to choose their own experiences, at their own time and pace, and to draw their own conclusions from said experiences (A Child's Place, 2012). They are also encouraged to play, because play will naturally lead to work (A Child's Place, 2012). There are no toys to be found in Montessori classes. Materials in the classroom are designed to build upon each other, thus building upon the child's knowledge (Oliveira, 1966). The materials are also self-correcting, which allows the child to evaluate for themselves their own accomplishments (Oliveira, 1966). The child has a responsibility to the other children in the classroom as well. Montessori philosophy involves grace and courtesy lessons. The children learn to respect nature, their work environment, and more importantly, to respect their classmates and other people. Peace education also helps the children get along; they are encouraged to solve problems on their own, but when they cannot, the peace rose gives each child the chance to express themselves and propose a solution.

Additionally, the mixed age groups in a Montessori classroom give children a unique experience for each year (A Child's Place, 2012). The children spend three years in each classroom. The mixed age group allows the younger children to observe and learn from the older children. The older children get the chance to be a leader and role model to the younger students; they are encouraged to help their younger friends, which also helps to reinforce their own knowledge (A Child's Place, 2012).

The teacher plays an important role in the classroom. In Montessori education, the first role of the educator is to stimulate life, but leave it free to develop and unfold in its own unique way (Montessori, 1964). The teacher prepares short lessons for only a small group of children at

a time, presented when the children are ready to move forward (Seldin, 2006 [A]). To assess each child's progress and development, the teacher spends much of their time observing the children at work (A Child's Place, 2012). Due to the mixed age classes and the wide range of abilities, the teacher has the freedom and responsibility to individualize every experience and lesson for each child (Seldin, 2006 [A]). Observation helps the teacher get to know the student well. The teacher must maintain the balance between knowing when to step back and respect a child's independence in making their own choices and knowing when to provide a little help. The teacher is responsible for setting up the physical, prepared environment. In Montessori, the physical environment acts as an educator as well and the teacher provides the link between the environment and the child (Seldin, 2006 [A]).

Dr. Montessori was the first person to place stable, child-sized furnishings in the classroom (Montessori, 1964). There are small cabinets throughout the room that hold the work. The room is separated into different sections, mathematics, language, sensorial, practical life, and cultural extensions (District of Columbia, 2011). The materials in these different content areas help the child build educational, social, academic, and life skills. The room is spacious with a few tables and chairs. The space gives children the opportunity to move, which aids the child's natural development (Justison, 1966). Dr. Montessori once made a strong claim using stationary desks in schools as proof of prevailing slavery (Montessori, 1964). Comedian Phyllis Diller once noted that education, during the first two years of a child's life, aims to teach the child to walk and talk; however, the structure of further, public education requires children to sit still and be quiet (Levin, 2012). This is not natural child behavior and is the basis of the rationale for movement. The children can choose to work at a table or on the floor with a work rug. The children can work alone or in small groups. In Montessori, there is not a strict schedule telling

children when to learn or what to learn. Children are free to choose their own activities and to choose how long they would like to work on each activity. However, that does not mean the Montessori classroom lacks structure. Children need structure (Koppenhaver, 1966). The necessary structure is provided through daily classroom routines and through the materials. The sequence of the materials allow the child to master their environment in an organized way that turns what appears to be chaos, into an invaluable educational experience (Koppenhaver, 1966).

### Creative Arts

The Montessori experience encourages children to be creative and think outside the box; this is promoted in conjunction with allowing the children to experience different mediums of art. ‘Real’ art, as opposed to only child-created pieces, is hung around the room, at the child’s eye level. This helps children learn an appreciation of art and beauty. Along with viewing art, the children are given the opportunity to express themselves through art. “Every child has untapped creative potential to be nurtured within the prepared environment of the Montessori school” (Reddit, 1966, p. 104). Maria Montessori describes the early years of life as ‘sensitive periods’; meaning these periods are vital years for acquiring skills habits and attitudes. This is especially true of language development and fine arts (Knudsen, 2004). Since the Montessori classroom is full of materials and free choice, children may occasionally feel overwhelmed; artistic expression offers the child a calming, tranquil experience (Reddit, 1966). Art also gives the child the ability to take an abstract thought from their own mind and turn it into something concrete, translating mind into matter. Depending on the school, different types of media may be available to children. Popular mediums include: water colors, colored pencils, charcoal, play dough, and tracing paper. Regardless of the media, the teacher will show students the proper way to execute the art; not how or what to draw, but how to correctly hold the colored pencil. Music

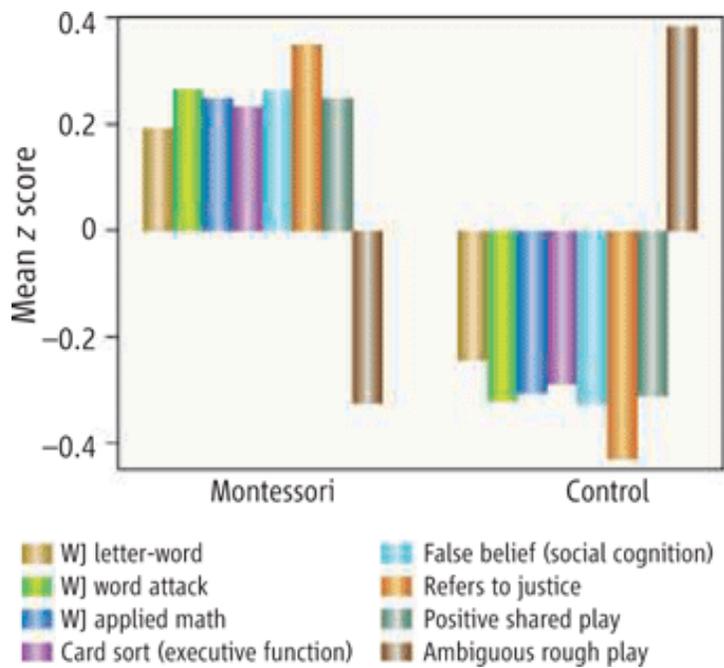
is also encouraged and incorporated into Montessori. A traditional Montessori material is a double series of bells. To children, the bells are simply fun to play, but the double series are set up to form an octave with tones and semitones, helping young minds prepare for formal music education in later years (Reddit, 1966). In fact, all Montessori materials are designed to feel like play to the child, but actually preparing the child for more complex education.

Evidence Based Outcomes

The Montessori Method and philosophy has been studied and tested for years; the research reveals positive outcomes for students of all ages. Common areas of study include comparing Montessori students to non-Montessori students in terms of their cognitive, social and behavioral skills, and motivation to learn.

*Cognitive/ Academic- Five Year Olds*

Among five year olds, students enrolled in Montessori programs were significantly more prepared for elementary schools, particularly in the areas of reading readiness and math (Lillard, Else-Quest, 2006). Specific skills included letter and word identification, phonological decoding ability, and ability to solve applied problems in math. Additionally,

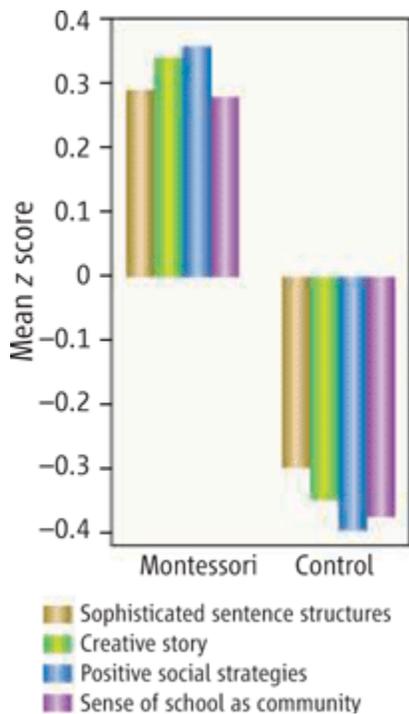


Montessori students tested higher in their ability to adapt to changing and complex problems, which indicates later school and life success (Lillard, Else-Quest, 2006).

#### *Social/ Behavioral- Five Year Olds*

When given scenarios about social problems, Montessori five year olds were significantly more likely to utilize a higher level of reasoning, by referring to fairness, to solve the problem (Lillard, Else-Quest, 2006). Playground observations of the children also revealed Montessori students as more likely to engage positivity with their peers and less likely to partake in rough play (Lillard, Else-Quest, 2006).

#### *Cognitive/ Academic- Twelve Year Olds*



Twelve year olds were also evaluated. Again, language skills were examined. Studies found that Montessori children wrote more creative essays with more sophisticated sentences (Lillard, Else-Quest, 2006).

#### *Social/ Behavioral- Twelve Year Olds*

When twelve year olds were reviewing similar, unpleasant social situations, Montessori students chose more positive assertive responses, such as verbally expressing their feelings, in order to deal with the problem (Lillard, Else-Quest, 2006). The Montessori children also indicated a greater sense of community in their school, saying that students in their class care about and respect each other (Lillard, Else-Quest, 2006).

### *Motivation*

Beginning in elementary school and continuing through high school, students begin to doubt the value of academics and their own ability to succeed (Rathunde, 2003). Research indicates the cause being a disconnect between the traditional school learning environment and the developmental needs of the child (Rathunde, 2003). Children in traditional school settings are often asking why they have to learn what is being taught. The Montessori Method, on the other hand, engages children in learning. Students are task-focused; they are intrinsically motivated to master challenging tasks for their own curiosity and benefit, as opposed to being performance-focused and only worried about getting an A (Rathunde, 2003). Montessori education sparks imagination and builds a life-long love, and base, of learning (Schapiro, 1993).

### **Conclusion**

In reviewing the history of traditional, public education, one can better understand the influences behind America's current education system. Unfortunately, these early influences are decades past critical review; the ideals and practices are outdated and the continuation of such methods has resulted in greatly concerning systemic problems. Government agencies rely too heavily on standardized test scores to determine the quality of schools, teachers, and especially education. Standardized tests only measure specific learning styles and types of intelligence and many have a demonstrated bias toward privileged students. This increase in testing has dramatically decreased national education quality in that it limits teachers' ability to customize learning and prevents students from reaching their full potential. The focus on testing has also caused the loss of other essential programs such as art and physical education. Furthermore, the current school system does not incorporate the teaching of life skills to benefit the child as an

individual, instead of just as a student. There are countless problems plaguing American public schools, but not all could be addressed in the scope of this paper.

Fortunately, a solution already exists. Montessori education is proven to provide better overall academic, social, and life outcomes for students than traditional education. However, in order for Montessori education to become popular knowledge and gain support, the many overseeing programs of Montessori training will need to come together to promote one message about the features and benefits of the philosophy. As previously mentioned, 'Montessori' is not a trade mark. Therefore, anyone can use the word to label trainings and programs, regardless of actual content. While most organizations have the best intentions, their messages are slightly different and send confusing messages to the public. There needs to be one location or organization to which parents, educators, and community members can turn to for the truest and more accurate Montessori information.

The cost of the current educational system is simply too high to ignore. Billions of American tax dollars are put into public schools and millions more are allocated to tutoring. Under No Child Left Behind, students attending schools that are considered to be failing are eligible for free tutoring (Van Buskirk, 2009). However, this tutoring is not really free. It is funded by American tax payers, costing an additional \$2.5 billion annually (Van Buskirk, 2009). Not to mention the student's wasted time. Children are required to attend school and are required to take high-stakes standardized tests. The current educational format fails to engage or excite students, causing school to simply be a chore. Then, when the model of teaching fails to actually help students learn, the students are subjected to further monotonous schooling in the form of tutoring and remedial education. By investing in a quality educational philosophy, such as the Montessori Method, tax dollars would be put to good use; school would be exciting and children

would want to learn, removing the need for additional money spent on tutoring. This money can then be allotted to the necessary training of Montessori teachers and classroom set-up. In fact, investing in education, especially early education, will provide both a meaningful and monetary return on investment. Children will be more prepared and more successful in their future endeavors. Additionally, economists have estimated that for every \$1 spent on quality education, society gains between \$3 and \$16 in benefits (Tolaris Institute, 2012).

Education is not just a concern for parents and teachers, but for every single person in the nation. Everyone is a stakeholder. How future generations are educated affects us all and is the one area in which society cannot afford to settle. These children will eventually enter society and contribute to future development; *they* will be leading this nation. In order to provide today's children with the tools needed to be successful individuals, contributing members of society, and bright leaders for the future, education needs to be the number one priority. With a plethora of big corporations targeting children with advertising and media, corrupting their morals and values, an approach that teaches children to think, both critically and creatively, has never been more crucial (Media Education Foundation, 2008). For the sake of our children and the healthy, future development of society, an enormous change needs to be made in the field of education.

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