How Standardization and Behaviourism Foster Inequality in Public Education: A Comparative Experience

Teresa Pigot-Upshall

> Although the risks and contradictions of life go on being as socially produced as ever, the duty and necessity of coping with them has been delegated to our individual selves.
>
> —Zygmunt Bauman

An Empty Vessel

Nearly five years ago I came to Asia with the goal of gaining experience working in education. At a time where my experience and contact with children was fairly limited beyond volunteer work in the past, I went into teaching with the assumption that all children start life as an empty vessel. Aristotle's empty vessel theory, though originating as far back as the 4th century BCE, still plays major role in thinking about child development today, giving no regard or consideration to the notion that the home life, learning environment, stress, health, parenting and socioeconomic status (SES) could affect how a child learned. Educationalists, led by John Locke, believed that the child's mind was a *tabula rasa*, a blank slate. Fresh out of university and equipped with the latest theories of learning, I accepted this belief for the first few years of teaching in early primary and kindergarten classrooms on the Thai island of Phuket. This accepted truth of children as empty vessels, blank slates, worked well until my first-hand experience with learners suggested that it was a short-sighted view of a complex process.

In Phuket, a great many of the children I taught came from homes where their mothers migrated from the poorest parts of Thailand. In an effort to earn money and provide for their extended family, the majority of them moved to Phuket, the richest province in Thailand, to work in the tourism industry. Often, these women entered the job of "bar girl" with the dream or goal of finding a foreign man to financially care for their extended families, settle down with and have more children. These mixed families make up a large demographic in Phuket.

Teaching their children always brought joy and inspired me in my work. I felt that I was contributing to the well-being of a new generation of less-impoverished children, providing them with important cognitive skills and the increased opportunity that these skills can bring. At times, there was a profound sense of sadness as I found that the children were not as responsive to educational stimuli as I had expected. Various issues with learning, speaking, reading and emotional management continued to arise. I remember one day asking my boss, a British woman who was the mother of a bright, talkative and confident little boy, why some of these kids seemed to be lagging behind others. She said quite simply, "These mothers, they just don't speak to their

kids at home and when they do interact, the mothers are often harsh. They just don't make conversation, or read to their children. The fathers put them in preschool in order to counteract what happens at home." Her response became an ongoing conversation that we would have throughout my formative years of teaching in Phuket. Back in my classroom I would continue to reflect on her words, noting how certain students came to school with what seemed to be low levels of learning readiness. I still reflect on these discussions in my current role as a high school teacher at an international school. While I teach students of all nationalities and backgrounds, I continue to find it startling that the gaps in their learning have ostensibly persisted into the later years of their lives. As teenagers, students who have not found success in school embody an attitude and negative self-perception that form a complex barrier to learning. When asking students about their home life, it continues to be apparent that certain requisite factors are necessary to ensure students' success at school. The absence of these factors diminishes the level of school readiness, nearly assuring a challenging educational experience. These observations conflicted greatly with the behaviourist notion that all students started life as equivalently empty vessels.

One Assumption Precedes the Other: Behaviourism

Like others, I assumed that human beings begin their lives as empty vessels that uniformly adapt and experience environment, stimuli and learning. This historical assumption established the belief that students experience knowledge in the same way, and thus have equal access to the benefits of education. Concurrent with this, behaviourism establishes that all students will respond to rewards and punishments, thus establishing foundations for teaching and learning. The empty vessel that is filled by teachers at an early stage in life is same empty vessel that can be conditioned through a system of punishments and rewards. Indeed, behaviourism, a paradigm of psychology that was popular between the 1920s and the 1950s, was based on the tenet that a person's behaviour can be conditioned through a system of punishments and rewards. The simplicity of this notion appears to be popular with teachers who are just starting out. Perhaps most teachers start with this assumption, but many find that behaviourism provides little lasting gain and change in individuals. This uniform assumption—that all humans are empty vessels and respond to stimuli and experience rewards and punishments in the same way—is demonstrably erroneous. In classrooms around the world the twin sins of behaviourism operate to attempt to motivate children to work to earn the gold star, for example, as opposed to learning as a goal of education, while providing mundane and overly simplistic means of behaviour management in the classroom.

Behaviourism and Neoliberalism: Misguided Assumptions of Standardization and Uniformity in Public Education

In our current neoliberal environment, behaviourism juxtaposes well with current policy trends. Behaviourism is embraced by neoliberal and conservative policymakers, who seek to treat actors within education in a uniform, one-dimensional way. Indeed, it is easier to understand complex human processes when they are broken down into numbers. Ravitch (2013) has found that this wide application of behaviourism is detrimentally applied to public education, as is the concept of measurement of productivity gains (p 2238). Ravitch (2013) asserts, "But children are not corn. They are not seeds or plants with fixed characteristics. Children's lives are not static ... They are not empty vessels waiting to be filled by a teacher" (p 2243). The idea that all behaviour, no matter how complex, can be reduced to simple stimulus presupposes an overly simplistic conception that "schools … operate like factories that turn out identical products" (p 5561). And, with this perspective in mind, overzealous policymakers apply this rationalization to making the school responsible for fixing complex inequalities in society. Therefore, with a behaviourist mentality, an expectation and assumption that school can "fix poverty," for example, or that "effective teachers" can "produce excellent education for all" applies incredible expectations and uses rewards and sanctions to elevate standardized test scores as the ultimate measure of education quality (Ravitch 2013, 464). Conversely, the effect of rewards and punishments on North American students has reduced the quality of education, which has led to narrowing of curriculum and the betrayal of other important skills and qualities of students, in favour of "teaching to the test."

The utility of behaviourism was popularized over a quarter-century ago in Great Britain with the rise

of neoliberal policies and the changes that derived from these policies. Indeed, the simple quantification of human activity was a major draw to applying conservative neoliberal policies and thinking to complex human problems. The simplistic premise of behaviourism is concerned primarily with observable behaviour that can be objectively measured; conversely, this application removes any complexity behind the behaviour, ignoring the cause or circumstances causing the behaviour, in exchange for simplicity and acquiescence. Researchers Harris, Smith and Harris (2011) strongly advocate for the removal of behaviourist thinking from education policy. They believe that this thinking has permeated the education system in the US, because "Just as a worker's actions are broken into the simplest steps in order to maximize output, so a student's learning is broken into observable (ie, measurable) parts, which are in turn manipulated through punishments and rewards" (Harris, Smith and Harris 2013, 73). Indeed, within the neoliberal's toolbox are a few blunt instruments that have been used continuously to manage and standardize the public education system. As Harris et al (2013) assert, "The tests and the scores they generate are seen as levers to be used to move the education system along. Policy makers try to use those levers to move educators and students … to take action … [through] threats of punishments and promises of rewards" (Harris, Smith and Harris 2013, 72).

The tests and the levers Harris, Smith and Harris refer to derive from a system well situated in the belief that students are empty vessels that can be filled with information and tested repeatedly using the same test model—standardized. Standardization has grown in popularity in the treatment of teachers and their work, which is managed by the neoliberal policies with the aim of producing uniformity that can be objectively measured and narrowly evaluated.

Educators' Perspectives: Public Education, Uniformity and Complexities of Learning

Recently, scholars have noted that the trend toward standardization is realized in the new neoliberal buzzword: *professionalism*. This involves breaking professional practices into a series of overly simplified competencies or technical skills that can then be standardized and, as we see in the US, even assessed through simplistic teacher evaluation checklists. While it is shocking that teachers' work is assumed to be akin to that of a factory worker, promoting this perilous analogy of teaching and learning as a production-line process makes teaching a series of technical acts while ignoring the reality that teaching really is a moral profession and is even the soul of education. By breaking down teaching into skills, neoliberals seek to establish a one-size-fits-all approach to teaching, necessarily biased against educational philosophy that seeks to explore potential or "what we could do." Breaking down education to determine best practices or investigating successful schools to see what makes them effective fails to contextualize our practice. Instead, there is an assumption that what works in one effective school is transferable to all.

Yet teaching should remain a morally driven profession that would not benefit from standardization and behaviourist-style manipulations. Using a behaviourist system that sanctions low-performing, "less effective" schools is simply ignoring the biggest indicator of academic success—socioeconomic status (SES). Schools in low-socioeconomic areas, for example, would be at a huge disadvantage and would be punished for external factors beyond the control of teachers. Conversely, neoliberal education "reformers" ignore much more socially and economically entrenched factors tied to learning—differences in how the rich and the poor experience learning.

Indeed, neoliberal policymakers assume with incredible naivety that standardized tests have the power to close achievement gaps. Foster's research (2011) argues that standardized testing is indeed not only not what is best for educating students, but produces results/data that "measure success" for politicians seeking to shrink spending on public programs and privatize education (p 25). A simplistic education of students is preferred to more complex models, and the uniformity of the factory model used in education has increasingly limited ability to provide students with a wide range of learning possibilities that enrich the lives of students and give them a sense of belonging. Low-SES students are at a greater risk of exclusion when faced with narrow education policies that favour accountability that derives from high-stakes standardized testing, for example, over high-quality holistic education.

When governments and policy makers opt to apply uniform standards and expectations, they ignore critical differences. Standardization, uniformity and the perpetuation of the belief that all students are empty

vessels ultimately challenge the work of educators at the very core. As colleague Jarrett Spannier notes,

> I would imagine that it would be much easier to simply ignore the issues that get in the way of students' learning as if they weren't there. I would sleep much easier if all I had to do was give tests and expect that each student should be able to perform equally because their community/family/ability contexts didn't matter. The fact is that this simply isn't true and a student's context outside of school does affect how they are able to perform in school. Each student's school experience is fairly similar, so the variables in their lives come from their genes and from their lives outside of school. We have to understand where the students come from, and adapt instruction and activities accordingly, but we cannot expect that each student will perform or learn or value equally. If they did, it wouldn't be teaching any more.[1]

The expectation of students to perform and learn uniformly, as empty vessels, is inaccurate and misguided. Research on low-SES students and language usage cited by Marsh (2011) indicates that a three-year-old child of a professional couple has a vocabulary of around 1,100 words, whereas the three-year-old child of a couple on welfare has a vocabulary of 525 words. Marsh (2011) makes the powerful assertion that language usage and vocabulary are critical to many other aspects of learning and experience throughout one's life trajectory because these skills influence IQ, test scores, job interviews and so forth. It isn't too hard to imagine how far behind a child starts if the child's parents are on welfare or otherwise living in poverty. This information suggests that when children come to school from different socioeconomic backgrounds, their background affects their ability to perform at a level equal to their higher-SES peers, which has a cumulative, inequitable impact over a lifetime. Indeed, the simplistic behaviourist perception of the child as an empty vessel betrays the value of human experience in both teaching and learning.

Broadening Curriculum to Meet the Goals of Education: Building Noncognitive Skills and Social Capital

Currently the majority of students and teachers in the public school system will encounter more standardized testing than their predecessors, all for the sake of accountability and the ease of measurement. Educators in the above discussion mentioned the importance of their relationships with their students, and how these relationships are an integral part of their work. Chang and Liou (2008) find benefits of the relationship between teachers and students particularly of value for students from low-SES backgrounds, who benefit more from the higher levels of trust that these relationships promote, which leads to an increase in feelings of inclusion and the building of social capital (p 111). These relationships are critical and speak to the moral nature of teaching, as the current standardization movement puts more emphasis on students from low-SES backgrounds having to succeed on these tests. This leads to a narrowing of the curriculum for students who would benefit immensely from a wider, more holistic educational offering. The inequity perpetuated in high-stakes testing and standardization has been cited in a report from the Center for American Progress that found that urban high school students spend as much as 266 per cent more time taking standardized tests than their suburban counterparts (Mulholland 2015, 2).When students are forced to focus heavily on activities based on testing, it not only narrows curriculum but also has a proclivity to decrease meaningful interaction between students and curriculum, students and teachers, and students with each other.

Educational researchers and economists have defended education practices that include a wider curriculum that speaks to the goals of education. In her policy work on why noncognitive skills should be taught in public schools, Garcia (2014), an economist, found that a broader curriculum promotes various skills, including noncognitive dimensions that indirectly build cognitive skills (p 15). For example, Garcia (2014) found that time spent on test preparation could be used more constructively to develop interpersonal and noncognitive skills through group projects, which have been found to cultivate skills such as collaboration, critical thinking and communication among high school students (p 15). Garcia cites research by Rothstein, Jacobson and Wilder (2008), who concur that nurturing these skills is both an implicit and explicit goal of public education, so that students from all socioeconomic backgrounds should have access to the ability to build traits such as persistence, communication skills, creativity and teamwork, among many others (p 7). The importance of developing these skills not only shows the value of wide curriculum that provides various opportunities

1 Online class post from Jarrett Spannier, March 12, 2016.

for valuable interactions and learning, but is a testimony to how, even when faced with achievement gaps, students can overcome cognitive gaps through noncognitive skill development.

Noncognitive skill research that also focuses on the development of social capital for students from low-SES backgrounds is highly important in the current test-centric system of learning. The skills that standardized tests gauge are perhaps not as valuable to students as neoliberal policymakers may presume. For instance, if a significant goal of education is to prepare students to find work to benefit their lives and become productive members of society, then a goal of education is, without a doubt, to prepare students for work. There is a strong disconnect between the goals of standardized testing and the emphasis placed on narrow knowledge, and the skills students need to be successful and productive in their adult lives. For instance, from analyzing surveys from employers, Garcia (2014) found that the ranking of the desired skill set needed for entrants' workforce readiness are oral communication, teamwork/collaboration, professionalism/work ethic and critical thinking/problem solving (Garcia 2014, 9). According to Garcia, more than 90 per cent of employers surveyed declared these skills to be "very important," in contrast to writing, mathematics, science, and history/geography, which were ranked 6th, 15th, 16th, and 19th respectively out of 20 skills (p 9). Indeed, it is true that few occupations rely heavily on basic academic knowledge developed in school settings—and the fact that employers stress the value of noncognitive skills in the workplace speaks to both those skills' overall impact and the need for policy makers to readjust their perceptions of what it means to be ready for college and employment (Garcia 2014, 10). Students' interacting more actively with their peers and teachers, while experiencing different types of learning, helps them to forge positive connections with their school community and increases a more positive self-identity. The current system, which expects that an emphasis on testing will close achievement gaps, neglects the value of relationships, community and the connectivity required to foster social capital in low-SES students.

The Interrelated Complexities of the Achievement Gap and Socioeconomic Status

It is indeed reassuring to know how teachers' relationships with students, student connections with the community and the building of noncognitive skills can help students overcome the challenges they face related to economic inequality. The achievement gap can be narrowed through noncognitive skill development, which is an important concept considering that, contrary to the blank-slate theory of child development, children enter school with cognitive gaps that can persist into the twelfth grade (Sadowski 2006, 1). The "achievement gap" is now a term that has been widely appropriated by neoliberal education reformers that seek to convince the public that standardized testing alone has the power to close these gaps. This is evidenced in the Ontario education minister's defence of the use of standardized testing in Ontario (EQAO), citing that it is "An important assessment for students, educators, and the public as we work to close the achievement gap in Ontario" (Rushowy 2015, 1). The beliefs of education reformers are misleading—the United States Department of Health and Human Services (2003) has consistently found that this achievement gap is present before children enter school and it continues to use research to understand the critical period of learning and development from birth to age five (p 1). Indeed, researchers like Sadowski (2006) have found that these gaps could be halved if the "differences that exist before entering first grade could be eliminated" (p 1). Considering that achievement gaps are present before children enter school, the antiquity of the notion of the child as an empty vessel or blank slate continues to be realized and played out in the daily lives of students and teachers.

Certainly the achievement gap is more complex than what can be found on standardized testing and other narrow measures of "success" for schools and students. Garcia (2014) notes that researchers have continuously found that SES acts as a mediating variable for the effects of other mechanisms that affect skills acquisition, so aspects such as parenting behaviours and engagement, access to higher-quality early childhood care, and parents' work habits and intellectual interests emphasized in the home facilitate how children develop their ability to learn (p 11). It is an unrealistic and overly simplistic expectation by government and policymakers that students would respond to such behaviouristic motivations of standardized testing policies. The government and various reform movements have responded to this critical problem in education through ignoring the complexity of the issue and instead finding ways to make teachers and testing responsible for closing it through the use of a system of punishment and sanctions. Ravitch

argues that neoliberal policies that favour accountability "delay the steps necessary to heal our society and help children, [while] castigating and demoralizing teachers for conditions they did not cause or control" (Ravitch 2013, 2048). Indeed, teachers and schools are greatly affected by the assumption that they can produce the same amount of learning for all the "same" students.

Educator and researcher John Marsh (2011) finds that the original American policy, No Child Left Behind (2001), and the policies that followed utilized heavily misguided conceptualizations of economics and inequity in making teachers responsible for the achievement gap when they "placed all their income-levelling eggs in one basket: education" (p 13). Marsh's concern strongly correlates with the assumption that children are empty vessels, of which more testing or more schooling can indeed create a uniform impact so large that whole income gaps can be closed by education. Marsh (2011) warns that

> As a nation we have decided that education, and often enough education alone, will reverse increasing economic inequality and boost the poor out of poverty. With so much at stake—life and death, sickness and health, opportunities and lack of opportunities—and so much to lose, that is a momentous bet to make. (p 64)

Foster (2011) warns that these policies do little to address the real problems in society, because "To adopt a conservative, 'no excuses' philosophy toward the achievement gap is to close one's eyes to the fundamental reality – child poverty" (p 22). In her work with Canadian youth in the current education system and the ongoing effects of the EQAO, Kearns (2011) has found that such "at-risk" groups are more inclined to experience exclusion, which leads to higher levels of students leaving school early, perpetuated by increased high-stakes testing in schools across Canada (p 114). When considering why lower-SES children do not fare as well academically as well-off children, Marsh (2011) asks his readers to consider how a student living under optimal conditions has easy access to academic success and overall success in life:

> Reverse all that—parental affluence, excellent childhood health, unencumbered performance in school, adult property, and excellent health as an adult—and you have a situation that goes far toward explaining why poor people have worse health (and lower incomes) than those with higher incomes and better health. You also have an explanation for why poor children tend to remain poor and why rich children tend to stay rich. (p 57)

Reflecting on this quote and the research reminded me of my time as a kindergarten teacher in Bangkok after leaving Phuket. In Bangkok I worked at a high-quality kindergarten for Japanese and British students. The differences between the students at this school and the one in Phuket were striking, though the curriculum and teaching were quite similar. Generally, the students at the school in Bangkok had parents who were older, educated and involved in their child's learning and the school community. These children had strikingly different health and overall well-being than those in Phuket, who were, in contrast, often sickly, highly emotional or just not as healthy as they could be. The students in Bangkok were fit, well dressed, clean and healthy. These students were reading nightly with their parents, and were engaged in extracurricular activities that worked to develop both cognitive and noncognitive skills. It is apparent that children enter school with very different backgrounds that, more often than not, hinge on socioeconomic status, as we all know.

Inequities from the Start: Child Cognitive Development in Low-Socioeconomic Homes

The schools in Bangkok were experientially astounding for me. As an educator I was now fully aware of the fact that children were not entering the classroom as empty vessels ready to be filled with knowledge. Of course there were variations in my limited experience, as indeed a few of the students in Bangkok had emotional and behavioural disorders, and several of my students in Phuket were highly intelligent and brilliant communicators. As an educator, my beliefs reflect those of most teachers who seek to engage all students regardless of background and skill set. I do not have to be incentivized to teach my students, as is suggested by neoliberal dogma. Instead, I derive great professional pride in working with all of my students to help them build self-sufficiency, skills and self-confidence. Among other concerns, it is here that neoliberal policies are misguided. Teachers don't need to have incentives or punishments to work hard. Policies should instead be motivated to close equity gaps in society. Neoliberalism works to remove public funding and privatize government programs that strengthen the community and bridge socioeconomic

gaps. These tenets of neoliberalism, though dominant government policies today, should be re-evaluated based upon wider notions of what it is to teach and learn.

With the continued implementation of education reform of neoliberal sentiment, the underlying theme of "survival of the fittest" reproduces inequality in the public education system for students from low-SES backgrounds. Researchers Strelitz and Lister (2008) found that in the UK, where the education system has experienced continued management by neoliberal policies, the direct relationship between family incomes and children's outcomes is increasing (p 69). Inequality permeates learning for low-SES children. According to Friedli (2009), students who show initial positive academic adjustment yet come from low-SES backgrounds are still more vulnerable to faltering due to weaker support structures at home and in the community (p 29). Friedli (2009) extended her research to how inequality is expressed in testing outcomes; she reported that students that come from low-SES backgrounds who show high cognitive skills with above-average reading skills do worse in standardized tests than economically privileged children with lower reading skills (p 29). Perhaps standardized testing is not the best means for assessing students, as existing disparities mean that not all students can expect to achieve on tests at the same rate. Ravitch (2013) asserts that "In every nation … the achievement levels of students from low-SES backgrounds fall short of their more advantaged peers" (p 2047). The continued correspondence between students from low-SES backgrounds struggling with the education system illustrates the complexity of how these factors come together to produce inequalities for students who are engaged in a system that increasingly applies uniform expectations and standardization.

Scholars continue to uncover how different factors contribute to the neurological development of children from differing economic backgrounds. Marsh (2011) cites research by Harvard's University Center on the Developing Child that has found that when children live in inequality, it "literally disrupts brain architecture" and "that effect is on top of any damage caused by inadequate nutrition" (p 57). Sanders (2008) also cites a study from the *Journal of Cognitive Neuroscience* that found startling evidence that children from lower SES backgrounds aged as young as 9 to 10 showed brain physiology patterns similar to someone who actually had brain damage in the frontal lobe as an adult (p 1). This study found that these patterns contributed to low response to cognitive stimuli and also the effects of damage to the prefrontal cortex, affecting the ability to apply critical thinking, problem solving, behavioural control and creativity (Sanders 2008, 1). Another group of researchers, at the University of British Columbia, found that 5- and 6-year-olds from low-SES environments had specific neurological development issues that were evident in higher rates of impaired executive functioning and poor problem-solving and reasoning abilities (Sanders 2008, 1). These cognitive and noncognitive skills are absolutely critical to success in education.

Researchers of neurological development in children refer to the setbacks these children face as *cognitive impairment* (Sanders 2008, 1). This, explain Hart and Risley (2003), is critically related to exposure to language in the home. Hart and Risley explain that the effects of the home learning environment, stress and parenting affect student outcomes in school. Not only are there massive gaps in the number of words heard by children ranging across ranges of class, but there are also significant differences in how parents speak to children in relation to their early development. Hart and Risley (2003) found that the average child in a professional family would have accumulated 560,000 more instances of encouraging feedback than discouraging feedback, compared to an average child in a low-SES family, who would have accumulated 125,000 more instances of prohibitions than encouragements (p 9). Their work on the word gap is strong evidence that it is impossible for the child to be an empty vessel, because children come to school bearing the consequences of their SES and home learning environment on their early childhood development. The researchers state that "The magnitude of the differences in children's cumulative experience before the age of three gives an indication of how big the problem is" (Hart and Risley 2003, 9). Thus, one can appreciate that the bigger picture of the stress of home life for low-SES families and how it affects a child's physical and language development in relation to the child's readiness to learn is one that is complex and widely misunderstood.

The Need for Change: A Wider Application of Learning and Perspective of Education

As researchers like Ravitch continue to find evidence and assert that assumptions of uniformity of student learning not only place unreasonable expectations on teachers and students, they are also

"antagonistic to public education" through diminished funding and standardization practices perpetuated in the "factory model" (Ravitch 2013, 529). Perhaps it is important to consider the issue through a broader lens that accounts for the development of noncognitive skills, community and health. For example, the Commission on the Social Determinants of Health has found that investing in holistic child development has the "huge potential to reduce health inequalities within a generation" and can also "close achievement gaps in education that start in early childhood" (World Health Organization 2008, 59). If the aim is truly to close the achievement gap, as neoliberal policymakers and government expect schools to do, then a wider understanding of the complex interplay of the causes of the achievement gap must be considered and valued. Researchers continue to find new ways to improve the chances for all children, regardless of socioeconomic background. For instance, the health care system can support education; a study by Sloat et al (2014) found strong evidence that supported the benefits of paediatric primary care providers providing low-SES parents with reading-promoting interventions (p 14). Health care workers can also provide parents with information and the knowledge of how to improve their child's outcomes, for instance, conversing with their child in the home on a daily basis, which Desforges and Abouchar (2003) found had a direct effect on increasing achievement in school (p 21).

Providing parents with the knowledge, tools and access to the social capital of community and professional intervention not only builds child health, it also works to benefit children throughout their lives. This is evident in the *Jamaican Supplementation Study* that found that when parents received child development support in literacy, home life and nutrition, children in the stimulation treatment group had benefits that substantially effected their cognitive and noncognitive skills in late adolescence and, later on in life, their adult earnings (Gertler et al 2013, 16). That the effects of adult earnings and success across the life trajectory are tied to noncognitive skill development is also substantiated in the Perry Preschool Programme, which provided high-quality kindergarten experiences that sought to improve noncognitive skills as well as cognitive (Gertler et al., 2013, p. 25). Though there was no lasting effect on child IQ, the study did find that the participants had better direct measures of noncognitive skills, leading to employment opportunities and increased income, than the peers who did not receive the treatment (Gertler et al 2013, 25). This study illustrates the importance of helping children become more actively engaged in social-capital–building activities as critically recognizing that we must look beyond narrow cognitive expectations for student learning and help students develop valuable noncognitive skills.

When education is viewed as an integral part of child development, and the school as a place of holistic learning, policymakers can endow trust and respect in the work of teachers and students. When schools and learning are exposed to stringent management of teaching, standardized testing and unrealistic expectations of student uniformity, the public system suffers and is increasingly damaged by these practices. As neoliberal politics continue to ignore social and economic factors endemic to student achievement, gaps will continue to widen. Students, parents and teachers need a more intelligent design of learning than a "factory model" and the use of standardized testing to narrowly measure achievement. To view all members of society through the neoliberal lens of "survival of the fittest" reduces complex human social and economic issues to simple behaviourism and cruel simplicity.

References

Chang, N, and T Liou. 2008. "The Applications of Social Capital Theory in Education." *Hsiuping Journal of Humanities and Social Sciences* 11, 99–122. Available at http://ir.hust.edu.tw/bitstream/310993100/512/1/11-6.pdf or http://tinyurl.com/h7b2mp7 (accessed October 13, 2016).

Desforges, C, and A Abouchaar. 2003. *The Impact of Parental Involvement, Parental Support and Family Education on Pupil Achievements and Adjustment: A Literature Review.* London, UK: Department for Education and Skills.

Foster, J B. 2011. "Education and the Structural Crisis of Capital: The U.S. Case." *Monthly Review* 63, no 3: 6–37.

Friedli, L. 2009. *Mental Health, Resilience and Inequalities.* Copenhagen: World Health Organization Regional Office for Europe. Available at www.euro.who.int/__data/assets/pdf_file/0012/100821/E92227.pdf or http://tinyurl.com/d2cw752 (accessed October 13, 2016).

Garcia, E. 2014. *The Need to Address Noncognitive Skills in the Education Policy Agenda*. Economic Policy Institute Briefing Paper 386. Washington, DC: Economic Policy Institute. Available at http://files.eric.ed.gov/fulltext/ED558126.pdf (accessed October 13, 2016).

Gertler, P, J Heckman, R Pinto, C Zanolini, S Verneersch, S Walker, S Chang, and S Grantham-McGregor. 2013. *Labor Market Returns to Early Childhood Stimulation: A 20-Year Follow-Up to an Experimental Intervention in Jamaica*. Cambridge, Mass: National Bureau of Economic Research.

Harris, P, B Smith and J Harris. 2011. *The Myths of Standardized Tests: Why They Don't Tell You What You Think They Do.* Lanham, Md: Rowman & Littlefield.

Hart, B, and T Risley. 2003. "The Early Catastrophe." *American Educator* 27, no 1: 4–9. Available at www.aft.org/sites/default/files/periodicals/TheEarlyCatastrophe.pdf (accessed October 13, 2016).

Kearns, L. 2011. "High-Stakes Standardized Testing and Marginalized Youth: An Examination of the Impact on Those Who Fail." *Canadian Journal of Education* 34, no 2: 112–30.

Marsh, J. 2011. *Class Dismissed: Why We Cannot Teach or Learn Our Way Out of Inequality.* New York: Monthly Review Press.

Mulholland, Q. 2015. "The Case Against Standardized Testing." *Harvard Political Review.* Available at http://harvardpolitics.com/united-states/case-standardized-testing (accessed October 13, 2016).

Ravitch, D. 2013. *Reign of Error: The Hoax of the Privatization Movement and the Danger to America's Public Schools.* New York: Knopf Doubleday. Kindle edition.

Rothstein, R, R Jacobsen and T Wilder. 2008. *Grading Education: Getting Accountability Right*. New York: Teachers College Press.

Rushowy, K. 2015. "EQAO Standardized Testing Cancelled over Job Action." *Toronto Star*, May 14. Available at www.thestar.com/yourtoronto/education/2015/05/14/teacher-strike-standardized-tests-cancelled-because-of-job-action.html or http://tinyurl.com/jxzchvq (accessed October 13, 2016).

Sadowski, M. 2006. "The School Readiness Gap." Harvard Education Letter 22, no 4. Available at http://hepg.org/hel-home/issues/22_4/helarticle/the-school-readiness-gap or http://tinyurl.com/ho5qytl (accessed October 13, 2016).

Sanders, R. 2008. "EEGs Show Brain Differences Between Poor and Rich Kids." *UC Berkeley News*, December 2. Available at http://berkeley.edu/news/media/releases/2008/12/02_cortex.shtml or http://tinyurl.com/83bu5n (accessed October 13, 2016).

Sloat, E, N Letourneau, J Joschko, E Schryer and J Colpitts. 2014. "Parent-Mediated Reading Interventions with Children up to Four Years Old: A Systematic Review." *Issues in Comprehensive Pediatric Nursing* 38, no 1: 1–18.

Strelitz, J, and R Lister, R. 2008. *Why Money Matters: Family Income, Poverty and Children's Lives.* London, UK: Save the Children Fund.

U.S. Department of Health and Human Services. 2003. *Strengthening Head Start.* Available at http://aspe.hhs.gov/hsp/strengthenheadstart03/report.pdf (accessed October 13, 2016).

World Health Organization. 2008. *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health*. Final report of the Commission on Social Determinants of Health. Geneva, Switzerland: World Health Organization.