A Path to Good-paying Careers for all Michiganders: Improving student outcomes from education, birth to college

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This report offers detailed ideas on how state policymakers can implement the education recommendations in our state policy report: *A Path to Good-paying Careers for all Michiganders*. As with that report, our goal is to offer ideas that will engage readers in a conversation about how Michigan can meet the economic challenges of the future.

Our commitment is to finding common ground: using our diverse experiences, beliefs and insights as assets in developing practical and effective recommendations. We don't all agree on every policy included in the menu of ideas we recommend for consideration in this report. But what unites us far exceeds what divides us.

Michigan's dominant economic challenge is similar to those Robert Putnam documented in his book, *Our Kids*: that the top quarter of American households are doing well and the other three quarters are struggling to keep up, many falling farther and farther behind. On measure after measure of economic and social well-being of households and their children Putnam presents charts that look like open scissors with those in the top quartile advancing and those in the bottom three quarters declining.

This pattern is true irrespective of race. Racial discrimination is an ongoing reality in employment, education, housing and the criminal justice system; but class is now the main dividing line in the American economy and increasingly class is defined by college attainment.

In this report we call the top quartile households affluent and those in the bottom three quartiles non-affluent. We believe this is a much better description of the divide that plagues Michigan than between those we label as low income or poor and the rest of Michigan households. The economic and education challenges we face go far beyond just those living in poverty.

The preeminent challenge of our times is figuring out how to reverse what is being called the Great Decoupling. Where even when the economy is growing—as it has been in Michigan since the end of the Great Recession—only those at the top are benefiting from that growth. The policy priority needs to be reestablishing an economy where as the economy grows all Michigan households enjoy rising incomes.

As we wrote in *A Path to Good-paying Careers for all Michiganders*, by far the most reliable way to raise Michiganders' household incomes is increased education attainment. The data are clear: the higher one's education attainment the more one works and earns. The power of education attainment in raising one's income has been growing for decades. The odds are great that the income gap by education attainment will continue to widen.

The most reliable path to a good-paying career is with a bachelor's degree or more, in both STEM and non-STEM fields.

The Georgetown University Center on Education and the Workforce reports of the 2.9 million net new good-paying jobs—those that pay at least $53,000 a year—added during the first five years after the end of the Great Recession, 2.8 million went to those with a bachelor's degree, 152,000 to those with some college or an associate's degree and 39,000 to those with a high school degree or less.

Of those jobs 881,000 were in STEM occupations and another 445,000 in health care professionals and technicians. That is a little more than 1.3 million of the 2.9 million net new good-paying jobs. More than 1.9 million net new high-wage jobs were in managerial and professional office, and sales and office support, occupations—the kind of jobs filled largely by liberal arts and business majors. Blue-collar occupations lost 71,000 good-paying jobs.

Clearly not all good-paying jobs require a four-year degree. There are many good-paying jobs that can be obtained with an associate's degree or occupational credential. But the preponderance of good-paying jobs are going to those with four-year degrees or more.

Those who will do the best in a labor market characterized by accelerated creative destruction are those who have the agility and ability to constantly switch occupations. The notion of a career ladder—predictable and linear steps upward—in a world that is constantly changing is obsolete. Rather people will need to be like rock climbers—constantly adjusting to new opportunities and challenges, and then resourceful enough to take advantage of those opportunities. Add to that increasingly the ability to be your own employer – finding good-paying work and good benefits and managing your own finances. These are the kind of skills that are developed best by earning a four-year degree, particularly in the liberal arts.

Unfortunately Michigan is a national laggard in education attainment. We consistently rank in the thirties among states in the proportion of adults with a four-year degree or more and even lower in K-12 student achievement.

Many believe that Michigan's low student achievement is largely a result of what children bring with them to school, not poor schools; that family and neighborhoods trump schools. Families and neighborhoods, of course, matter. But the reality is, across the country, there are many early childhood programs (both home based and center based), K-12 school districts (both traditional public and charter), and higher education institutions that are demonstrating that quality education can get high student outcomes no matter what the students' background.

One can make a strong case that we have a human development system that tolerates high levels of student failure: too many kids leaving early childhood programming not ready for kindergarten; way too many students leaving high school not ready for post-secondary education; far too many who enroll in post-secondary institutions failing to earn a degree or even a meaningful credential. If anything, the performance of the adult training system is even worse with very low completion rates and many who do complete not finding good-paying work.

We need to both raise the bar so that all education institutions are accountable for meaningful success of their graduates and that those held most accountable are those in charge of the institution/enterprises. Policy incentives should drive—not discourage—all education providers to serve well children growing up in non-affluent households.

The reality is there is no path back to a rising standard of living for most Michiganders that is not built on a foundation of high-quality education for all children from early childhood through college.

Our education policy recommendations are built on two core principles:

First, that all children deserve the same education no matter whom their parents are. Without that we cannot live up to the core American value of equal opportunity for all. We are on the opposite track at the moment as both a country and a state.

The second is that none of us have a clue what the jobs and occupations of the future will be. Today's jobs are not a good indicator of what jobs will be available when today's K-12 students finish their careers in the 2050s or 2060s. We simply don't know how smarter and smarter machines are going to change labor markets. So the purpose of pre K-12 education (maybe even pre K-16) is to build foundation skills that allow all Michigan children to have the agility and ability to constantly switch occupations – to be successful rock climbers.

To thrive in the new economy, workers have to be adaptable, have a broad base of knowledge, be creative problem-solvers and be able to communicate and work well with others. In other words, workers need to be really good at all of the non-algorithmic skills computers aren't good at yet.

The best definition we have found for this complex set of skills comes from the book Becoming Brilliant, by learning scientists Roberta Michnick Golinkoff and Kathy Hirsh-Pasek, who label these skills the six Cs:

- Collaboration, the ability to work and play well with others, which encompasses a wide range of soft skills necessary for success in the modern workplace;
- Communication, the ability to effectively get your point across and back it up with evidence, both verbally and in writing, and the ability to listen and be empathetic;
- Content, deep understanding and a broad base of knowledge in a range of subject areas, rather than simply surface knowledge of reading and math skills;
- Critical Thinking, the ability to sift through mountains of information and get a sense of what's valuable and not and to solve unanticipated and unpredictable problems;
- Creativity, the ability to put information together in new ways;
- Confidence, which encompasses capacities like grit, perseverance, and a willingness to take risks.

If Michigan is going to be a place with a broad middle class, if employers are going to have the supply of skilled workers they need and if Michigan is going to be a place once again where kids regularly do better than their parents, it will happen because the state made a commitment to provide an education system for all from birth through higher education that builds rigorous broad skills that are the foundation of successful forty-year careers.

A lifelong education system designed around the 6 Cs as foundation skills for all no matter what career one chooses requires a transformation in our approach to human capital development. The areas in which transformation needs to happen:

- Standards: From an almost exclusive focus on content to Common Core content standards plus rigorous standards for the five other Cs
- Assessments: From one right answer standardized tests to measures that are predictive of college and career success. In addition to not being predictive, having standardized test scores as the only measure of student success has driven out of most schools serving non-affluent students the arts, music, and a rich array of electives and free extracurricular activities, all important elements in building the 6 Cs.
- Pedagogy: From rote learning to problem solving/ project based teaching and learning
- Accountability: From closing low performing schools to holding management of education institutions and systems at all levels accountable for high-bar standards of student success at the next level
- Talent: From far too many blaming teachers to valuing, developing, and holding accountable all professionals who impact student outcomes. This is teachers, but also principals, counselors, superintendents, and chief academic officers.
- Funding: Substantially increasing funding for non-affluent children from birth through college. To us the evidence is clear: The formula for ending what is increasingly becoming an education caste system—where for the first time in American history your parents' education attainment is the best predictor of a child's education attainment—is both far higher quality education providers and substantially more funding for children growing up in non-affluent households starting from birth through college. As Putnam makes clear, if you want evidence that investment in education matters just take a look at how much top quartile parents spend on their kids development from birth through college.
- Segregation: Incentives to integrate neighborhoods and schools by race and class. We have known for more than a half century that the most powerful lever to improving outcomes of non- affluent students is attending school with lots of middle class students and yet we are going in the wrong direction.
- Operators: From letting the market decide who operates schools to giving parents choice but only from operators who meet high-quality standards and where supply and demand is balanced. We are long-time supporters of charter schools and school choice, but have been disappointed in the results of both. States where choice is working best to improve student outcomes combine in creased parental choice with much higher quality bars to be able to operate schools.

What follows are our ideas on how we can best redesign education from birth through college to build 6 Cs foundation skills in all Michigan children. The recommendations are based on our understanding of what works. The recommendations are a menu of what we consider the most effective options.

We understand that some of the options will not be acceptable to some. As mentioned earlier not all of the Michigan Future Board and staff agrees with every recommendation. For those who don't agree we hope they offer alternative ideas on how we can build foundation skills in all Michigan children that will allow them to get good-paying work over a forty-year career.

This paper is broken into three sections. The first section will outline what needs to change in our current education system in order to have a system built around developing 21st century skills, rather than a narrow band of math and reading skills. The second section will focus on a single aspect of the system most in need of change, and on which just about everything else depends, namely the human capital we have working in our schools and central offices. And the third section will focus on residential and school integration.

Our goal should be to design an education system that provides for all children the experiences that affluent children take for granted. We need to both eliminate the gaps that exist between educational institutions serving affluent and non-affluent children – in design, pedagogy, and funding – and better integrate those institutions by income. Only then can we say that we're providing all Michigan students with an education that will prepare them for success in the 21st century.

I. REDESIGNING EDUCATION

In the United States, we have an education system that is technically egalitarian. All students go through twelve years of compulsory education, and students aren't moved into vocational tracks when they reach high school. Yet it's also clear that while we don't have a two-tiered system in form, we certainly have one in function. Standardized test scores and educational attainment vary drastically based on socioeconomic status. Affluent students start out ahead, and non-affluent students can't catch up.

And this unbalanced race starts well before children reach kindergarten. Childhoods in affluent families are marked by stimulating and nurturing experiences, with heaps of enrichment activities. Children in less affluent families are less likely to receive the same level of enrichment, with children in the poorest families often experiencing toxic levels of stress and neglect. Gaps between affluent and non-affluent children are wide by the time students start kindergarten, and they never close.[1]

These gaps exist above and beyond traditional markers of academic achievement. In trying to close the basic skills gap, K-12 schools serving non-affluent students spend nearly all their time and energy focused on a set of narrow skills measured by standardized tests, and are often marked by "no excuses" discipline practices.[2] Affluent suburban schools and prestigious private schools, meanwhile, have expansive curriculums designed to engage students, classes that encourage dialogue and discussion, and mission statements that focus on curiosity, creativity, self-discovery, and the joy of learning.[3]

What we end up with then is a gap not only in basic math and literacy skills, but also in a range of unmeasured skills that are far more important in the 21st century. And while the first gap receives all the attention, the other more important gap – in the skills that will truly allow students to thrive in college and career – rarely enters the equation.

The 6 Cs – collaboration, communication, content, critical thinking, creativity, and confidence – are the skills students will need in order to complement rather than be replaced by machines, solve today's problems, and create new solutions to problems we can't yet envision. And this same set of skills are needed to attain a four-year college degree, and are further developed through a liberal-arts education. This is a major reason why the returns to a four-year college degree have increased so considerably over the past 40 years. [4]

The goal of our education system should be to equip all Michigan children with this broad set of 21st century skills that will enable them to pursue whatever it is they want to do with their lives. This means that all students should graduate from high school prepared to pursue a broad course of study at a four-year university, where students gain the foundation needed not only for a first job, but for a forty-year career. In our formulation, there's no difference between college-ready and career-ready – the set of skills we're working towards is the same. And while not every student will attend a four-year college, every student should have that option.

Because there are significant gaps between the experiences of affluent and non-affluent children at every level of education, we'll start with an overview of what the ideal education system would look like, from birth through college graduation, highlighting the policies and funding needed to make it a reality.

EARLY CHILDHOOD

Education in Michigan needs to start at birth. While what is generally labeled early childhood education describes programs for 3 and 4 year olds, brain research continues to uncover more about the importance of the earliest years on a child's development. Children who are stimulated and nurtured by their parents from birth – through serve and return interactions and calm, soothing responses to childhood stresses – build the neurological connections that will form the base of their future intellectual, emotional, and psychological traits. Children who from an early age experience instability, neglect, abuse, trauma, or even just a lack of stimulation and nurturing, are more likely to experience high levels of stress, inhibiting the development of parts of the brain responsible for regulating emotion and persisting through challenging, long-term, intellectual tasks. Education writer Paul Tough calls these executive functioning skills the "neurological infrastructure" responsible for everything from working memory to self-regulation to perseverance.[5] A child's experiences in their earliest years dictate much of what follows.

The model for early childhood education is what the affluent provide for their children. Since the early 1980s, measures of kindergarten readiness have improved for all income groups, but have skyrocketed for children raised in top quartile families. Researchers believe this is because these families are dedicating far more resources to their children than low and middle-income families, both in terms of time and money. They read and talk with their children more often, engage in serve-and-return interactions, and invest in high-quality child care, pre-K, and enrichment activities.[6]

This is critical because the academic achievement gap is already large by the time students start kindergarten, and actually grows by less than 10 percent throughout a child's education.[7] In other words, by the time students reach school age, much of the damage is done.

Replicating the early childhood experiences of wealthy children for non-affluent children means three things. First, the developmentally beneficial parenting practices used in affluent homes need to be spread to everyone. In addition, non-affluent families need the time and stability in their home lives to be able to utilize these practices. And finally, non-affluent families need to have access to high-quality early childhood education, the kind that offers the stimulating and nurturing environment needed to build a strong neurological infrastructure.

Parenting practices

There's some evidence that the spread of promising parenting practices – what Harvard professor Robert Putnam calls "Goodnight Moon time" – is happening, and that it's having a significant impact. While the academic gap between high and low-income children has for the most part only widened since the early 1970s, recent research has demonstrated that between 1998 and 2010, the school-readiness gap actually narrowed slightly, by 10 percent in math and 16 percent in reading.[8] Researchers credit the better preparation of low-income students not with better pre-K, but the spread of positive parenting practices.

Despite the progress, low-income students still come into kindergarten a year behind their high-income peers, and it's estimated that if we continue to improve at the current clip, it will take another 60 to 100 years to close the math and reading gaps between high and low-income entering kindergartners.[9]

One way to spread promising parenting practices more quickly is through a range of successful home-visiting programs that have a parent coaching component, in which a trained case worker highlights the benefits of positive parent-child interactions, and coaches parents to do more of them.[10]

While Michigan has a range of home-visiting programs, of the roughly 260,000 Michigan children under age 3 and labeled "at-risk" (under 185 percent of the poverty line), fewer than 10,000 participate in a home visiting program with a parental coaching component.[11] While most of these programs depend on federal funding, state contributions can help the programs reach more families. Michigan currently contributes roughly $5 million in non-Medicaid dollars to home-visiting programs, a very small investment, and spends just 2 percent of its TANF block grant on child care.[12] Vermont serves 26 percent of families in need through home-visiting programs by dedicating roughly 30 percent of its TANF block grant to child care.[13]

Stability at home

In addition to knowledge about positive parenting practices, affluent families also have more time and energy to devote to their children. If you are a parent living with material scarcity, constantly preoccupied with money concerns and shuttling between part-time work and social service agencies, you may not have the bandwidth to engage in the sort of cultivated-development parenting practices that wealthy parents regularly engage in.[14] Recommendations in our paper on shared prosperity in Michigan – including paid family leave, predictable work schedules, wage enhancements through an expanded EITC, and a strong and easily accessible safety net – can help to provide parents with more time and stability.

High-quality child care and pre-K

Finally, affluent families also have the money to spend on high-quality early childhood education – both childcare and formal preschool – that ensure their children show up for kindergarten with a "stable base of interpersonal, motivational, and psychological capacities" that will enable them to thrive in a 21st century education.[15]

As the authors of *Becoming Brilliant* note, quality early childhood education should be centered around learning through play. Anything resembling student testing or traditional academic instruction in the early years would be antithetical to an education based around the 6 C's. In the words of child-development expert Stuart Shanker from York University in Toronto, "The goal here is not to replicate the sort of teacher-directed program that characterizes grade school; it is to create an environment of child-directed activity that mobilizes the child's interest and imagination."[16]

In the book *Helping Children Succeed*, Paul Tough describes a program called Educare, which is trying to provide high-quality early-childhood experiences to non-affluent children. Educare centers provide both childcare and preschool, with infants experiencing constant nurturing and stimulation through caregivers' talking, singing, and reading, while toddlers and up experience "interactive nurturance" that builds their neurological infrastructure and noncognitive capacities. Disadvantaged students that attend an Educare center before their first birthday are caught up to the national averages on both academic and noncognitive measures such as initiative and attachment by the time they start kindergarten.[17]

However, Educare in particular and quality early-childhood education in general, is expensive. Educare costs roughly $20,000 per child, money that is currently patched together through Head Start funding, state funding, and philanthropic dollars.[18] High-quality care is expensive because it's very much dependent on quality inputs: well-trained staff, small child to staff ratios, and quality curriculum and resources.[19]

It's also worth the cost. Decades of research by University of Chicago economist James Heckman has demonstrated the return to investments in early-childhood, when the brain is particularly malleable, far exceeds the return on investments in the later years.[20] Yet the money we spend on years zero to five – when the gaps open up – is a tiny fraction of what we spend on K-12, when we try and close those gaps.

Early childhood education in Michigan

Michigan has a good framework in place for early childhood education. The state has comprehensive standards for both childcare centers and preschools, with an emphasis on the development of core noncognitive capacities, and a ratings system for childcare and pre-K centers based on key quality inputs.[21]

The problem, however, is that there aren't nearly enough high-quality providers, and non-affluent families lack access to early care/education in general, and high-quality care/education in particular. Of the roughly 9,000 providers statewide, both in homes and centers, just 163 – 1.8 percent - earned the top 5-star rating in Michigan's Great Start to Quality rating system. Almost 30 percent have either a three, four, or five-star rating, but the majority of providers – over 6,000 of the roughly 9,000 providers – meet only the licensing requirements, and don't participate in the rating system. This number also doesn't account for the unlicensed centers that served almost 8,000 of the roughly 30,000 children receiving childcare subsidies in FY 2015.[22]

We need a clearer picture of quality in our early childhood education/care system. According to a 2016 report by Public Sector Consultants, the reason so many providers fail to participate in the rating system is because pursuing quality improvements – qualified staff, smaller student to staff ratios, professional development – is expensive and time-consuming.[23] Our early childhood care/education system should not be held back by providers' refusal to make needed investments in quality, nor by insufficient state resources. All providers should be required to participate in Great Start to Quality, and provided with the resources needed to ensure quality.

We should also invest in our early childhood care/education evaluation system. The bulk of a provider's rating is done through self-evaluation on a number of structural measures. Only if a provider seeks the highest rating are they required to have an outside evaluation of interactions between staff and children – the true determinant of quality in early childhood education.[24] To gain a clearer picture of quality we need far more centers to be subject to outside observation.

Another way to increase access to quality, as recommended in the PSC report, is to award child care subsidy slots to high-quality providers through a contract system, pushing those providers to expand, rather than providing the subsidies directly to families, who may use the vouchers on low-quality care. Expanding this contract system would offer high-quality providers the means to expand, and steer non-affluent families to high-quality care.[25]

But in addition to pushing for greater accountability, the state also needs to drastically increase investment in early childhood education, both to help centers make quality improvements, and increase access for non-affluent families. The state has earned positive attention over the past few years in its push to improve pre-K access for four-year-olds, now spending $240 million to provide access to 37,000 4-year-olds annually from families below 250 percent of the poverty line.[26] However, we provide no state funding for pre-K programs for 3-year-olds, and make a very small investment in childcare subsidies. We devote just 2 percent of our TANF funds to childcare assistance, and spent just $336 per-child in FY2013, 11th lowest in the country.[27] Low investment means we offer subsidies only to families below 125 percent of the poverty line (2nd lowest threshold in the country), and provide very low subsidies (4th lowest in the country, as measured against the 75th percentile market rate), making high-quality care inaccessible for non-affluent families.[28]

Other states have recognized that accessing high-quality care isn't only a problem for the lowest-income families, and have raised the income threshold under which families are eligible for subsidies. California's income eligibility threshold for childcare subsidies is 228 percent of the poverty line, and thirty-three states have set their income threshold to at least 50 percent of the state median income, compared to Michigan's at 38 percent of the state median.[29]

But in addition to increasing access, increased investment can yield greater quality, particularly in the early childhood workforce. We want early childhood educators who've received extensive training in early childhood education and development, who are passionate about the work, and are compensated as professionals. Yet our early-childhood

education workforce is paid poverty wages. The average wage for childcare workers in Michigan is just $8.36 an hour.[30] The median salary nationally for preschool teachers is $28,500, half the median for kindergarten teachers, despite the fact that they often have the same educational background.[31]

Quality and funding are inextricably linked. The highest rated centers have lead teachers with a BA in early childhood education, and are also more expensive, allowing them to offer relatively higher salaries and benefits. If we want a highly qualified early-childhood workforce, we need to both increase training requirements for all teachers, and increase childcare subsidies and public funding for early childhood education to enable providers to pay professional salaries.

One idea to ensure adequate and stable funding in the early childhood space is to dedicate a per-pupil spend for children under 5, on a sliding scale based on income. There are a lot of quality programs we can spend money on: evidence-based home visiting programs, high-quality childcare, high-quality preschool. But what's needed is a targeted, unwavering, annual investment in these programs committed to serving non-affluent children. Michigan spends nearly $6,500 per pupil in their highly regarded Great Start to Readiness (GSR) pre-K program for four-year olds, covering 37,000 children. What's likely required is this same level of per-pupil investment but for all non-affluent children under the age of five.

In considering this type of investment, we must remember that there was a time when we did not publicly provide all citizens with a public K-12 education. We began to do so, however, when an educated citizenry became a necessary component for economic competitiveness. Likewise, a high-quality early childhood education is now a necessity for students to have a shot at success in the 21st century economy. Public policy needs to adjust to this new reality, and it's time we devoted at minimum equal and ideally more resources to a child's earliest years as we do to their K-12 years.

K-12 EDUCATION

When a child hits 5 years old, she suddenly enters the formal school system. Ideally, students from all points on the economic distribution would enter kindergarten not only with a grasp of early literacy and numeracy, but also with core noncognitive capacities around communication, self-direction, and creativity.

But even if this were to occur, the start of formal schooling is often regarded as the time when children are "educated" out of the creativity that all children come to school with, largely due to our system of test-based accountability.[32] Our current system seems almost explicitly designed to not develop 21st century skills. The state exams created under No Child Left Behind resulted in a significant winnowing of the curriculum, in which the focus of education was overwhelmingly placed on a narrow band of basic math and reading skills, at the exclusion of everything else. The focus of education in so many schools has become test prep, promoting an unengaging, skill-drill style of instruction on test-like practice problems that ignores the broad range of skills students need for success in the 21st century.[33]

Former Secretary of Education John King notes this same conflict between a focus on narrow skills on the one hand, and student engagement and 21st century skills on the other:

> "For me and for so many students, a wide range of possible subjects in school, powerfully and creatively taught, can be exactly what it takes to make the difference between disengagement and a lifelong passion for learning. Literacy and math skills are necessary but not sufficient for success in college, careers, and life. The world our children will be working, leading and succeeding in will be one of constant innovation and connection from across the globe. In order to fully maximize the potential of this world of ideas and cultures, it's vital that we redefine a well-rounded education for all students that includes access to learning new languages, in addition to science, social studies and the arts."[34]

The negative effects of skill-drill and a narrow curriculum are most apparent in schools serving non-affluent children, which are likely to have lower test scores and feel greater pressure to focus on the test. Schools serving affluent students – in large-part freed from the pressures of test-based accountability – can spend more time focusing on student curiosity, creativity, self-discovery, and the joy of learning.

Not only does an education system centered on test-based accountability exclude the development of 21st century skills and exposure to a broad and engaging curriculum, but it's also done a poor job of increasing test scores. In the 16 years since the passage of No Child Left Behind, the income achievement gap has only grown,[35] and U.S. scores on international PISA exams, which are known to be a better measure of problem-solving abilities than most standardized tests, have also failed to improve relative to other nations.[36]

We of course need to hold K-12 providers accountable and ensure students are making progress on basic skills. The problem, however, is that too targeted a focus on a narrow band of skills, taught in an unengaging, test-prep fashion, may not only exclude the development of 21st century skills, but could actually be detrimental to the mastery of math and reading skills over the long-run.

Indeed, our obsessive focus on test scores causes us to miss out on the development of many other essential skills. In the book *Crossing the Finish Line*, the authoritative study on which students graduate from which colleges and why, researchers found that a student's high school GPA was far more predictive of their eventual college success than their score on the SAT/ACT. A student's GPA is likely predictive of success because it measures a range of non-cognitive skills (study habits, self-advocacy, perseverance) not captured by standardized tests.[37]

Yet student grades, and efforts to improve student grades, are often left out of the discussion. Research by Northwestern economist C. Kirabo Jackson found that student outcomes on a "non-cognitive index" made up of grades, attendance, and disciplinary records was more predictive of life outcomes than test scores, and found that the teachers able to improve this index were often not the same teachers able to move test scores.[38] Yet under our current system, teachers who move test scores are rewarded, while the work of teachers developing a broad set of important and unmeasured skills is likely ignored.

Below are some recommendations for how we move away from a system focused solely on test-scores, and towards a system focused on our students' ability to thrive in an ever-changing economy.

Standards and curriculum

As stated in the introduction, our education system should be designed around building the 6 Cs. A curriculum designed to develop 21st century skills would focus on building deep content knowledge using engaging, relevant projects that encourage the development of the other five Cs. This is far different from the curriculum of steady test-prep that many Michigan students receive. What's needed is a statewide exemplar curriculum that maps out the Common Core standards, groups them by central understandings, details how the 6 Cs can be infused within the standards, and provides engaging content, to offer teachers and school leaders a vision for what a 21st century education looks like. In New Jersey a wide group of stakeholders is coming together to do exactly this, mapping out the common core standards and creating an exemplar curriculum infused with 21st century skills.[39]

Pedagogy

How this material is taught also matters. In his book *Helping Children Succeed*, author Paul Tough provides a great description of what a 21st century education looks like through his description of Expeditionary Learning (EL) schools. EL schools are built around a project-based learning model, in which students work in groups on relevant and rigorous long-term projects, and present the final results of their project to authentic audiences. This model encourages students to collaborate and communicate, to think critically and create novel solutions to problems, and to actively learn content and stretch outside their comfort zones. It's a model tailor-made for developing the 6 Cs.

Along with EL, models that promote a style of instruction in which students are asked to engage deeply with content, come up with answers on their own, be self-directed, collaborate, and create final written and oral products, are often referred to as deeper learning models. It's this instructional model we should have in our minds when we imagine 21st century instruction: discussion over lectures, discovery over rule-following, and performance-based assessments over high-stakes tests.[40]

It should be noted that this is the dominant educational model in elite private schools and suburban schools serving affluent students. The affluent are given an education that prepares them for careers in what Harvard education professor Jal Mehta calls the "managerial class," while a narrow curriculum and "rule-following tasks" prepare everyone else for working-class careers.[41] In an economy in which we're going to need more managers, and fewer blue collar workers, this can no longer be the case.

We need classrooms in which students gain the skills they'll need to thrive in and adjust to a world we can't forecast, in which machines will continue to get smarter and smarter, and humans will be called upon to display the most human of actions: to work together, to talk and to listen, to seek understanding, to be discerning, to be creative, and to take risks and develop solutions to problems we can't yet imagine.

Talent

Teaching towards the development of the 6 Cs would be a dramatic departure from what we currently ask of classroom teachers. First and foremost, it would require that teachers are competent in the 6 Cs themselves. They must be eager to collaborate with others, to borrow and try out ideas in their own classrooms; know what good, evidence-based writing looks like, and be able to do it themselves; have deep content knowledge and be curious life-long learners, developing exciting new projects

for their students to tackle; be able to think critically about information they're presented, and push their students to adopt the same critical lens; and be willing to take risks and redesign their pedagogical approach when necessary.

It's not just teachers of course. Principals, counselors, CEOs, and chief academic officers must also have a deep understanding of what a 21st century classroom looks like, and help teachers adjust to this new reality.

In Section 2, we'll detail what a human capital system that attracts, develops, and retains top talent might look like.

Accountability

How we hold K-12 education accountable needs to change dramatically. Our current system of test-based accountability fails to provide data on what matters most to college completion and career success, and fails to incentivize schools to work on developing that wide range of skills, habits, mindsets, and knowledge. It also pins the blame for low test-scores squarely on the backs of teachers, making it far too easy to fire teachers and close schools, without taking a deeper look at the system as a whole.

The ideal accountability system to encourage the development of 21st century skills would be built around four major principles. The first is that the K-12 system should be held accountable to students' attendance, persistence, and success in higher education. A college degree is the ultimate measure of a student's likelihood of success in the 21st century economy, so this is what everything needs to be measured against. Using college success data to evaluate K-12 systems forces these institutions to think about the capacities students need to develop in order to be successful in higher education, leading them to the 6 Cs.

Holding K-12 systems accountable for postsecondary outcomes also serves to capture elements of school quality that aren't captured in a test score. For example, the quality of a school's college-counseling department has a dramatic impact on students' postsecondary success. Non-affluent students are far more likely than their wealthier peers to undermatch, attending a less selective institution than they could have been admitted to. And this matters because students who undermatch are far less likely to graduate than observationally equivalent peers that end up at more selective colleges with more resources and higher graduation rates.[42] In addition, at all selectivity levels colleges vary significantly in both their overall graduation rates and in the size of their graduation rate gaps between white and minority students. We need counselors that ensure students aim high, and are placed at institutions where they're likely to be successful.

The second principle is that rather than an accountability system based solely around the standardized tests that measure a narrow band of basic academic proficiencies, we should use multiple measures to give policymakers, school operators, and parents a much richer picture of the extent to which a school is preparing students for college and career success. While one of those measures would be students' ultimate postsecondary attainment, we also need actionable data in the short-term, to give us an idea why students are struggling in college, and whether or not schools are on-track to improve. Potential measures would surely include some testing in math and literacy skills, but might also include exposure to college-level coursework; student GPAs to capture key noncognitive capacities; quality assessments that measure problem solving, analytical writing abilities, and broad content knowledge; and student surveys on a range of school quality indicators.

The third principle is that those held accountable should not be schools, but the institutions – the school districts, charter school management organizations, charter school authorizers – that operate and manage schools, and the state-level actors that set policy and allocate resources. These institutions are responsible for setting the course for a 21st century education system, and ensuring those working in schools have the necessary support to deliver a 21st century education. When faced with low achievement, it's easy for management organizations, districts, authorizers and lawmakers to fire principals and teachers and close schools, without making needed changes to how schools are designed and supported. So in addition to publishing multiple measures of school success, this data should also be published by district, by charter management organization, and by charter school authorizer.

The final principle is that our accountability system should be designed to inform school-improvement efforts, rather than serve as a blunt instrument to decide which schools should close and which should stay open. Using accountability systems to help schools improve is a hallmark of the accountability systems in most high-achieving countries.[43] For years we've been closing failing schools under the assumption that they'll magically be replaced by good schools. Yet we often have no clue where these new schools will come from, and no plan for developing them. In the meantime, school closures lead to untold disruptions in the lives of families, and the communities in which they live. A struggling school should lead to improvement plans, with help from school officials, partner institutions, and education experts, rather than a continuation of our close and replace strategy.[44]

In addition, if we're going to have a system based on choice we need to have a far more robust system in place for using our accountability system to help guide parents to quality schools. We now have a system where savvy parents shop for the good schools, and those without the time, resources, or knowledge are left with whatever school is closest. We need both an accountability system and system of parent counseling that turns all parents into savvy shoppers.

Assessments

Tests aren't going away, and nor should they. But they don't have to be given every year, nor do they have to be taken by every student to get an accurate reflection of how well students of a given school or system are performing.

We don't believe tests are inherently bad. What is bad is our current tests, and the undue emphasis that is placed on their results, forcing too many schools to focus only on basic math and reading skills, at the expense of the broad set of skills students will need to be successful in college and career.

Better models exist. The highest-achieving nations on international assessments use performance assessments as the bedrock of their assessment system, using open-ended tasks and essay questions to assess student knowledge, problem-solving skills, and writing abilities.[45] The PISA exam – the international exam that provides a benchmark for how education systems across the world stack up against one another – tests for higher-order skills, asking students to apply knowledge and analyze novel scenarios.[46] The essay exams used in the International Baccalaureate program have long been recognized as a great gauge of college-ready skills. And the College and Work Readiness Assessments from the Council for Aid to Education are explicitly designed to test students critical-thinking, problem-solving, and written communication skills.[47]

These type of assessments, of course, present data that's harder to measure. Grading the assessments would require teams of trained experts who understand what quality writing looks like, and can grade constructed response questions in which students demonstrate multiple layers of knowledge. It's not as simple as our current system, which spits out a single number based on how many multiple choice questions a student correctly answers. But if we're going to have an education system that pushes students to think critically, solve authentic problems, write well, and apply deep content knowledge, we need our assessments to measure these higher-order skills. And a bit of extra time, effort, and cost, to ensure that our education system is focusing on broad, meaningful skills rather than narrow, disconnected ones, is well worth it.

Funding

It's our belief that an education system designed to develop a broad set of 21st century skills already exists in prestigious private schools and affluent suburban districts. But it's not design alone that enables these schools to deliver a different sort of education than is seen in schools serving non-affluent students. It's also about resources. All of the initiatives outlined above, from high-quality curriculum and assessments, to the recruitment and retention of top talent, will cost significantly more than we're currently investing in our public schools.

For years, there's been a persistent myth that school funding is unrelated to student outcomes. Politicians on both sides of the aisle decry rising spending and stagnant test scores. It's not the money, these politicians say, but how the money is spent.

In a certain sense, they're right. School funding in the aggregate certainly has been increasing, more than doubling since the early 70s, and reading scores on the NAEP exam, the nation's report card, have indeed been stagnant.[48] And of course, they're also right that how you spend the money matters a great deal.

However, they're mostly very wrong. There's voluminous research demonstrating the importance of increased funding in schools, particularly for low-income students, particularly if used on the right school inputs, and particularly if measuring long-term outcomes instead of test score gains. Recent research from C. Kirabo Jackson at Northwestern University looked at a number of school-funding increases across the country from 1955 to 1985 and found that if a poor child attends a school that receives a 20 percent increase in school funding that is maintained throughout a child's 12 years of public education, she is likely to complete nearly one additional year of education, earn 25 percent more as an adult, and is 20 percentage-points less likely to be poor as an adult, compared to students who didn't receive the same level of funding in either duration or intensity.[49] These findings only held for low-income students (increased funding had no effect for wealthier students), impacted long-term outcomes (as opposed to test scores), and required significant funding increases that went towards the right inputs, generally brought about by a "shock" of funding through legislative or court order.

Jackson's study is part of a larger group that make up for the deficiencies of previous studies that have given education funding a bad name. These negative studies were mostly observational rather than experimental, and looked at long-term national trends in both test scores and funding, without controlling for factors that have

naturally caused the cost of providing education to increase, or looking at how targeted investments impact certain populations.[51]

The experiences of high-spending states also buttress the case for more school funding. Massachusetts is often seen as the model for education reform, and while admirers often point to the high standards they set in the mid 1990s, they often fail to mention the massive increase in funding that accompanied those standards, specifically targeted at low and middle-income schools, for things like curriculum materials, teacher attraction and retention, and professional development.[51]

In 1980, Massachusetts and Michigan spent roughly the same on K-12 education, and had roughly the same student outcomes. Today, Massachusetts spends over $3,000 more than Michigan per-pupil, and their students lead the nation in student performance and compete with top-performing nations on international assessments, while Michigan is an educational laggard.[52] Correlation does not imply causation of course, but the reforms Massachusetts undertook to establish one of the best education systems in the world – more and better professional development for teachers, higher teacher pay, well-resourced classrooms – all cost money.

What do wealthy parents do for their children?

With all that said, however, the best evidence of the importance of school funding can be found in the actions of wealthy parents. Stephen Henderson, editorial page editor for the Detroit Free Press, made this argument in a column in 2016, noting that parents of means don't look at the research to figure out if school funding matters for their kids – they already know that it does.[53] As Henderson writes, wealthy parents simply identify what their kids need, and then figure out how to pay for it, be it moving to a district with quality schools or paying for private schools.

This, of course, should be our philosophy when it comes to the funding of public education for all Michigan students: we should identify what kids need, and then figure out how to pay for it. So in crafting school funding policy, it's worth looking at how much is spent in affluent districts and elite private schools, and what it is parents are buying. While the majority of districts in Michigan receive little more in state and local funding than the per-pupil foundation grant of around $7,500, there are a certain number of affluent hold-harmless districts that are permitted to raise significantly more in local taxes for operating revenues. One of these districts is Birmingham Public Schools, which receives around $12,000 annually per pupil. As noted in the district's strategic plan, Birmingham parents are buying an expansive curriculum that engages students and allows them to discover their passions; a school culture focused on empathy; and unlimited opportunities for student learning.[54] All of these objectives cost money: highly qualified staff, small class sizes, robust electives and extracurricular activities, and a wide array of technological tools and curricular materials.

Another example is the Greenhills School in Ann Arbor, one of Michigan's most elite private schools. At Greenhills, tuition is over $20,000. A look at the Greenhills website gives you some idea what $20,000 gets you: beautiful facilities, small class sizes, a broad curriculum, a comprehensive set of extra-curricular activities, and a highly-qualified teaching staff of subject-matter experts.[55] These are the needed inputs to develop the "curious, creative, and responsible citizens" the school hopes to graduate.

Yet none of the stated objectives in Birmingham or at Greenhills can be measured by a standardized test score. We wouldn't be able to find evidence that increased school funding worked. But parents know these objectives are important, and know that who teaches their children, with what materials, and in what environment matter, so they spend the money.

While there is much that goes into providing students with a quality education, school funding expert Bruce Baker from Rutgers University says that the focus should really be on two factors that are present in just about every school serving wealthy students: small class sizes and well-paid teachers.[56]

While low-income districts like Detroit do receive compensatory federal funding (known as Title I funding), the money is mostly used for professional development, and either can't be used for or fails to make a dent in the two factors listed above.[57] So while Birmingham public schools have pupil-teacher ratios of 19 to 1 and average teacher salaries of over $75,000, Detroit schools have 32 kids in a class, and an average teacher salary just over $50,000.[58]

Again, one can argue that these things don't matter, and that you can make schools work with huge class sizes and poorly paid teachers. But if we seriously evaluate our education policy decisions based on what we'd want for our own kids, what matters becomes apparent pretty quickly.

Extracurricular activities

We also have to remember that affluent parents are buying far more than just what happens inside the classroom. They're buying a full array of extracurricular activities that they know are just as important as academic instruction.

We began this paper talking about the gaps that we miss between affluent and non-affluent students when we focus solely on the academic skills gap measured by standardized tests. And one of the most critical gaps, though one that receives relatively scant attention, is the gap in student participation in extracurricular activities.

From the 1970s to today, the gap in extracurricular participation by income has grown substantially. In the last four decades, affluent students have remained engaged in school clubs, sports teams, and non-school enrichment activities, while participation amongst lower-income students has declined. In 1972, over 75 percent of low-income students and over 85 percent of their wealthier peers were involved in at least one school-based extra-curricular activity. By 2004, however, while participation rates for wealthier students was constant, participation rates for low-income students had fallen to 65 percent.[59]

Research suggests that involvement in extracurricular activities is just as critical to developing the habits and skills needed for career success as are the academic skills where we place so much focus. In Robert Putnam's *Our Kids*, Putnam writes that the original purpose of extracurricular activities was to help kids develop the soft skills so many employers now covet.[60] And research shows that extracurricular activities do indeed build leadership skills, perseverance, curiosity and ambition, encourage prosocial behavior and interaction with like-minded, engaged peers, and serve to further connect students to their education, the labor market, and civic life.[61]

While inequality, changing parenting practices, and residential segregation by income have all played a role, the biggest reason for the widening extracurricular gap by income comes back to K-12 funding.[62] When school budgets decline, extracurricular activities are among the first things cut, and the cost gets shifted to families. This is less of a problem for affluent families, who may be able to absorb "pay to play" fees or can raise funds through parent associations. But an estimated average cost of $600 per activity can be a serious obstacle to participation for non-affluent families. Research has shown that as "pay to play" fees have been introduced across the country, one in three low-income students that formerly played sports dropped out, while just one in ten wealthy students did.[63]

High-poverty schools also have fewer extracurricular offerings. High-poverty schools offer half the number of team sports as low-poverty schools, and studies suggest that the gap may be more pronounced for non-athletic extracurricular activities, like orchestra or the school newspaper.[64] With budgets tight, uniforms, coaching stipends, and travel expenses go by the wayside.

Michigan is not immune to these national trends. While state-by-state data on extracurricular participation isn't great, the data that is available for Michigan matches the national trends. Based on the 2012 National Survey of Children's Health, while nearly 95 percent of wealthy children in Michigan were involved in one or more activity outside of school, just 64 percent of poor students were.[65]

In addition to being able to retain better teachers and reduce class sizes, additional per-pupil funds for schools serving non-affluent students will help us close the gap in extracurricular participation, by enabling all schools to offer a full suite of extracurricular activities that are critical for a well-rounded 21st century education.
We can also collect data on extracurricular participation as part of our accountability system. Student surveys asking students to self-report involvement in both school-based and out of school activities could provide critical information in deciding where programs are needed and what progress we're making towards broad participation.

School funding in Michigan

Reflecting on both school funding research and the parental preferences of affluent parents, it's clear Michigan has a long way to go to equitably fund K-12 schools to provide every Michigan student the chance to obtain a 21st century education. And we're not headed in the right direction: the minimum per-pupil foundation allowance has dropped by roughly 15 percent in real terms since 2002, over $1,000 per student.[66]

What is most needed in Michigan is the provision of equitable funding for non-affluent students. Michigan funds non-affluent districts at a lower rate than affluent districts. Contrast this with states with highly progressive funding systems like South Dakota, Delaware, Minnesota, New Jersey, and Ohio, where high-poverty districts receive between 27 percent and 38 percent more in funding than low-poverty districts.[67] Minnesota distributes an additional $3,000 per student who qualifies for free lunch at schools of concentrated poverty. And Massachusetts, the national leader in student achievement, distributes up to almost $3,500 per low-income pupil, recognizing that to lead the nation in student achievement, *all* students need to achieve.[68]

Michigan schools, meanwhile, only receive what amounts to an additional $800 per low-income student, with the total level of funding capped.[69]

Michigan further hinders its high-poverty districts because it's one of only six states that offer no state funding for capital improvements, leaving non-affluent districts to rely on the local property taxes of a diminished tax base

to fund improvements to their ailing school buildings.[70] In addition, charter schools don't receive either state support or local property taxes to fund facilities.

In early 2016, Detroit received national attention for the state of its crumbling schools – broken heating systems, rodents in classrooms, leaky pipes; schools that "shock the system."[71] With no capital funds coming to non-affluent districts from the state, and localities unable to raise sufficient revenue, this should come as no surprise. Contrast Michigan's approach with Connecticut, where the state provides matching grant funding for school construction and repair projects, on a sliding scale based on the wealth of the district.[72]

Segregation

Most all of what we're proposing is an attempt to level the playing field between affluent and non-affluent children. The education system we want for non-affluent children is the one that by and large already exists for affluent children. The most powerful lever for equalizing opportunity, therefore, above and beyond everything else, is to better integrate schools and neighborhoods by class.

Education research since the 1960s has found the composition of a school's student body to be more strongly related to achievement than any other school factor.[73] In addition to attending a low-poverty school, living in a low-poverty neighborhood positively impacts virtually every aspect of a child's life, from exposure to crime to health outcomes to the perception of order – all of which have a dramatic impact on a child's chance of success in life.[74]

In the third section of the paper, we look at some potential ways to achieve greater school and neighborhood integration.

Governance

Finally, a note on governance. It's become popular in education reform circles to state that you don't care about school governance – you just want what's best for kids. But looking at the results of an unregulated charter sector in Michigan, paired with expanded school choice policies, it's become much harder to stay neutral on school governance, as it's the lack of attention to governance systems that has led to much of the dysfunction we see.

It bears repeating that we're supporters of charter schools and school choice. But we also believe that operators need to be held to a far higher bar, both in whether they are granted a charter in the first place, and whether they're able to continue to operate. Other states, with better outcomes, have implemented these types of regulations.

Take Massachusetts for example. First, Massachusetts places a cap on the number of charter schools that can exist in a district, such that charter funding doesn't exceed a certain percentage of overall district funding. This type of cap prevents the type of over-penetration of charter schools we've seen in cities like Detroit (Michigan has no cap), that has created a city with far more school seats than children to fill them.[75] This leads to school operators—both charter and traditional public—focused mainly on survival and stability rather than improving student outcomes.

Massachusetts has allowances to their cap, particularly in the state's lowest performing districts, but only proven providers are allowed to open schools that push charter penetration over the legislative cap. A proven provider could be a current charter network with a track record of success, or a separate school set up by someone who's worked in a management or leadership role in a successful school.

This type of quality control means that while Detroit charters have mostly earned a lousy reputation, charters in urban areas of Massachusetts like Boston have a great reputation. University of Michigan economics professor Susan Dynarski has written convincingly on the need to raise the charter cap in struggling urban districts in Massachusetts, citing a series of rigorous studies showing that Boston charters deliver better outcomes for observationally equivalent students than comparable traditional public schools, as measured by test scores, AP course participation, and college attendance.[76] No one could make the same claim about Detroit charters.

If we're going to give parents choice, we need to ensure that they're able to choose between quality options.

HIGHER EDUCATION

As the returns to postsecondary education have skyrocketed over the past 40 years, a college degree in general and a four-year degree in particular has almost become a pre-requisite to enter the middle-class.[77] And the reason the income-premium between a four-year degree and everything else continues to grow is that a four-year college degree signals to employers that you've spent four years certifying your credentials in 21st century skills: writing analytically, collaborating with classmates, thinking critically about important issues, conducting research, directing yourself, advocating for yourself, and meeting the requirements needed to complete a rigorous four-year project.

Increasing degree attainment in Michigan is also critical to achieve our goal of raising household income for all. Of the top fifteen states in 2015 per capita income, three are oil and natural gas driven economies. Of the other twelve all are in the top fifteen in the proportion of adults with a four-year degree or more.

Student success

Michigan institutions of higher education need to improve student outcomes. The 6-year graduation rates at many of our public universities are far too low, hovering between 35 percent and 55 percent at many of Michigan's institutions that are not highly selective in admitting students. That number drops considerably for underrepresented minority students.[78]

Results at our community colleges, both locally and nationally, are even worse. Nationally, while 81 percent of first-time community college students say they want to go on to earn a bachelor's degree, only 12 percent do so in six years, and two-thirds of community college students fail to get any type of degree (certificate, associate's degree, bachelor's degree).[79] All of the Detroit metro-area community colleges have three-year associate's degree attainment rates under 20 percent for first-time, full-time students.

In full, 1.2 million Michiganders, or 25 percent of the working age population, have some college but no degree – a substantial loss in both economic and human potential.[80]

We can do much better, and student demographics are no excuse. Georgia State University, an urban university in downtown Atlanta, provides a great example of a mid-selectivity institution that has redesigned itself to improve student outcomes. 57% of entering freshman students at Georgia State are eligible for a Pell grant (a marker of low-income), 48% are underrepresented minorities, and they come in with average grades and test scores. Schools in Michigan with similar student bodies – over 40% Pell-eligible, over 15% minority, with average grades and test scores – include Wayne State University, Eastern Michigan University, Saginaw Valley State University, and U of M – Flint.

The charts below show the graduation rates for all institutions referenced above – the Michigan schools and Georgia State – in 2002 and 2016, for both the overall student population, and for African-American students. As you'll see, Georgia State looks largely similar to the Michigan institutions in 2002, but drastically different by 2016.

6-YEAR GRADUATION RATES *(OVERALL STUDENT BODY)*	2002	2016
Georgia State University	35%	53%
Wayne State University	34%	39%
Eastern Michigan University	38%	41%
Saginaw Valley State University	31%	38%
University of Michigan - Flint	38%	37%

6-YEAR GRADUATION RATES *(AFRICAN-AMERICAN)*	2002	2016
Georgia State University	32%	57%
Wayne State University	12%	17%
Eastern Michigan University	28%	20%
Saginaw Valley State University	16%	20%
University of Michigan - Flint	35%	22%

Over the span of 14 years, while student outcomes at Michigan's public universities serving a high proportion of Pell-eligible and minority students either improved slightly or declined, Georgia State dramatically increased their graduation rates – by 18 percentage points for the overall student body, and by 23 percentage points for African-American students.[81]

And they did it by completely redesigning the institution around student success, instituting a set of reforms that are providing colleges with a playbook for how to improve student outcomes. Included in that playbook are reforms that encourage full-time enrollment, limit student choice, mix remedial coursework in with for-credit classes, place a laser-like focus on "milestone" courses, drastically increase the number of advisors, and make student advising intrusive, rather than reactive.[82] We need to ensure that colleges across the state – four-year institutions and community colleges alike – are following this playbook.

While some states – including Michigan – have turned to performance funding to try and push for higher completion rates, we don't support these reforms. Most research on these schemes is mixed, and a central concern is that those institutions serving a greater proportion of non-affluent and minority students will be penalized, creating even greater resource gaps.[83] Students should not be the ones punished for institutional performance, but this is the likely result of performance funding systems.

With the creation of Michigan's Center for Educational Performance and Information, the infrastructure is in place to assess the performance of our public universities and community colleges. This data should be made widely available, easily accessible, and paired with annual school improvement plans, highlighting how the school will meet certain performance goals, and the resources they need to get there. Colleges and universities who are leading the way in student success already do this on their own. If institutions aren't committed to a student success playbook, the leadership of the institution should be held accountable. In 2014 we conducted a scan, on behalf of the McGregor Fund, of higher education institutions across the country that were moving the needle on student success.[84] We found meaningful reforms always came from direction at the top. Student success was the top priority of the institution, and that message was reinforced by the president of the institution. Absent leadership from the top, any reforms to encourage greater student success have little hope of taking hold.

Quality education

In addition to students actually completing college, however, we should also be paying far more attention to the education they're receiving. In 2011, sociologists Richard Arum and Josipa Roksa published *Academically Adrift*, a landmark study documenting the lack of learning occurring on college campuses. Using a nationally representative sample of students at four-year colleges and universities, the authors found that over the first two years of college the institutions had, on average, failed to improve students analytical and critical thinking skills, based on their performance on the Collegiate Learning Assessment.[85] They also found that college, by and large, was not as rigorous as we generally think it is. A third of students didn't take a single course that assigned more than 40 pages of reading per week, and half the students didn't take a single course that required over 20 pages of writing in a semester. And on average, students were only studying 12 to 13 hours a week, half the time students spent studying in 1960. Yet even students with poor study habits and a light work-load were receiving good grades.[86]

In other words, the research found that students weren't being held to very high standards in conducting rigorous, analytical, complex, critical thinking, and were failing to spend the time learning the content that would allow them to think critically about complex issues.

There was, however, good news that emerged from the study. Professors with high expectations produced greater levels of student learning; students enrolled in traditional liberal arts tracks, rather than education or business tracks, showed significantly more growth in their performance on measures of critical thinking, fulfilling the promise of a liberal arts curriculum; and despite the range of objectives institutions are trying to achieve, there's generally broad agreement amongst college faculty that the aim of a college education is to teach students how to think critically.[87]

The study suggests several clear paths for action. The first is that more attention must be paid to developing quality instructors. College instructors vary considerably in their teaching abilities and often need to balance a range of professional demands, yet often receive very little professional development in instructional practice. In addition, teacher evaluations are often based on student course reviews rather than formal observations, potentially providing an incentive to lower standards. What's needed is an increased focus on classroom observations by trained experts, paired with guidance on what high standards for thinking and writing skills look like in a college classroom.

In the book *Becoming Brilliant*, authors Kathy Hirsch-Pasek and Roberta Michnick Golinkoff, discuss what it looks like to teach with the 6 Cs in mind in a college classroom. In their classes, they ask students to assess their own strengths and weaknesses in the 6 Cs, and then they intentionally design their courses around group work (collaboration), a lot of reading and writing (communication and content), and written exams in which students have to wrestle with different arguments (critical thinking). At the end of the semester, students rate themselves on the progress they've made on the 6 Cs.[88]

Finally, absent the Arum and Roksa study, there's been little effort to track student learning in higher education. The Collegiate Learning Assessment is one example of a tool that can be deployed far more widely, to provide a regular check on the extent to which our institutions are producing students who are learning to think.

Critical thinking, communication, and the ability to wrestle with complex problems isn't only within the purview of four-year colleges, of course. We need to ensure that our more occupation-focused two-year and certificate programs are also equipping graduates with a set of skills that goes above and beyond technical, trade-specific skills, enabling them to navigate future career changes.

There are examples we can turn to for guidance in this work. Institutions as varied as the Culinary Institute of America to West Point require students to take a full-load of courses in the liberal arts, in addition to trade-specific training, to gain the background knowledge and critical thinking skills needed not for a first job, but for a forty-year career.[89] University of Wisconsin researcher Matthew Hora

argues in his book, *Beyond the Skills Gap*, that the skills gap that many employers describe ends up looking a whole lot more like a gap in communication and critical thinking skills – the skills developed through a broad education in the liberal arts – than a gap in any technical skills. He concludes that removing liberal arts courses designed to develop these skills from technical programs is counterproductive.[90] And even within a narrow technical program, colleges across the country are implementing project-based approaches to learning, in which students are pushed to demonstrate critical thinking and communication skills in real-time to solve problems they'll face on the job.[91]

Funding

Increasing both completion rates and educational quality in our higher education institutions is the key driver of economic growth. Yet based on the state's divestment from our public universities, you wouldn't know it. Michigan's divestment from public universities, and lack of investment in our state's community colleges, is a barrier to increasing the proportion of Michiganders with four-year degrees and providing equal opportunity for all Michiganders to access the education necessary for the 21st century economy. This is yet another chapter in the story of the affluent accessing the institutions and resources needed to gain 21st century skills, while non-affluent students receive something less. While over 60 percent of those raised in the top income quartile will finish a BA by age 25, just 30 percent of those raised in the middle two quartiles and just 15 percent of those in the bottom income quartile, will end up crossing the finish line.[92]

What we need is a system such that no student faces undue financial obstacles to pursuing a four-year degree, and our universities have the resources needed to implement national best practices in student success.

Funding – four-year colleges and universities

While nearly every state in the country cut higher education funding during the recession, Michigan was already doing so before 2008, and stands out in its level of divestment. Adjusted for inflation we've cut $1 billion in public education spending since 2001-2002, a 40 percent drop.[93] On a per-student basis, spending fell from over $9,000 per student in 2001, to roughly $5,000 today.[94] According to the State Higher Education Executive Officers Association, Michigan appropriations per student are almost $2,000 below the national average.[95]

While a funding drop is technically a cut to university budgets, it's Michigan students who suffer. University budgets are made up of two major inputs: state appropriations and student tuition. When appropriations drop, tuition rises.

And this is exactly what has happened in Michigan, to an alarming degree. In 1985, Michigan public universities received roughly 60 percent of their budgets from state appropriations, relying on student tuition for 30 percent. That year, tuition at Michigan State University was just over $3,000 in 2015 dollars.[96] Today, universities rely on student tuition for 70 percent of their operating budgets, and just 20 percent of funds coming from the state.[97] MSU's tuition is now over $15,000.

The high price of college presents a formidable obstacle to both college access and success for non-affluent students. On the access side, high tuition leaves students with the general impression that they can't afford college, and they may choose not to attend.[98] In our experience working with high schools in Detroit, only public universities with large endowments, like the University of Michigan and Michigan State University, could commit enough need-based financial aid dollars to eliminate students' financial aid gaps. At Michigan's more open-access public universities, our students faced financial aid gaps of $4,000 to $8,000 per year, even after receiving a full Pell grant, institutional and state aid, and taking out the maximum allowable amount of federal student loans. These students were essentially blocked from attending a four-year university.

And once on campus, affordability issues drastically reduce the probability of graduation. One late tuition bill or failure to purchase books can derail a student's progress. Many students facing financial stress will try and work far more hours for pay than they should, indefinitely putting their education on hold.[99] And for the growing number of students unable to secure adequate food and housing while they attend school, academic success is likely out of the question.[100]

In addition, if universities are struggling to stay in the black, they're unlikely to invest in the type of support structures needed for student success. Contrary to the narrative that universities have a surplus of wasteful spending they can cut, university efforts to cut costs often result in an inferior product for students. Over the past decade, as state support for higher education has decreased and colleges have sought to reduce budgets to keep tuition down, the hiring of adjunct faculty – hired at low salaries, with minimal stability, and no benefits – has skyrocketed, up 286 percent nationally since the mid 1970s.[101] In addition, as we seek to expand access to traditionally underrepresented populations, colleges will need far more mid-level, non-faculty professionals – advisors, counselors, student support staff – to ensure student success. To provide a quality education for more students, far more spending is required, not less.

California can serve as a model for how to pay for public higher education with public funds. In California, just 20 percent of operational funding for their four-year public colleges comes from tuition, and the state's general fund provides almost all the rest of the funding.[102] While tuition at California's highly competitive UC system is comparable to Michigan universities, tuition at the California State system is around $6,000, half of the cheapest public university in Michigan.

Most importantly Michigan should drastically increase funding for need-based state scholarships. Ideally, the state would offer funding to eliminate any gap left after grant money and federal loans.

Note that under such a system, students would still be required to take out low-interest, federal student loans before accessing supplementary funding. We believe that student loans done right, in which students take out only federal loans and are enrolled in an income-based repayment system, are a great investment, and one students should be counseled to make, so long as it allows them to go to school full-time.

In addition, state funds should go towards a student's full cost of attendance, not simply the last dollar of tuition. New York State recently passed a law granting students from families earning under $100,000 tuition-free college at all public universities. While this may look good on paper, the law does nothing to defray the number of additional costs students face – books, housing, transportation, food – that are often a far larger challenge than tuition, and present meaningful obstacles to college success. Michigan should use need-based grants to help students cover the entire cost of college, and help far more students attend full-time and finish on-time.

And these need-based state grants should be available to a far broader range of non-affluent students. Often, middle-class families are faced with an expected family contribution that is far larger than they can actually make. State grants should be available to all non-affluent families, on a sliding scale, based on income.

Funding – community colleges

While we place considerable focus on four-year degrees, we also believe that community colleges are vitally important institutions that should play a key role in both individual advancement and the health of the Michigan economy. Affordable, open-access, located where students live and work, flexible enough to develop programs to meet local labor market needs, and serving a variety of educational goals, community colleges offer all students the opportunity to continue their education and earn postsecondary degrees and meaningful credentials.

However, a look at community college completion rates, as referenced above, show that we're not delivering on this opportunity.

There are many reasons why community college students fail to complete. Students entering community college are often academically behind, with almost 70 percent of students taking one or more remedial courses; 62 percent of students come from the bottom half of the income distribution, likely having gone through under-resourced K-12 schools; and students generally receive relatively little academic advising, despite the myriad courses, programs, and credentials offered at community colleges.[103]

In addition to serving the most disadvantaged student population, community colleges receive far fewer resources than four-year colleges. In Michigan, our four-year public colleges have roughly $23,000 in operating resources per full-time equivalent student, while the state's community colleges have roughly $9,000 to spend. And while state support has been relatively constant over the past decade, increased enrollment has meant a per-student funding decline, leaving community colleges to rely on the limited revenue they can retrieve from property taxes and tuition increases.[104]

If we want better outcomes at our community colleges, it will require more state support. Despite generally dismal completion numbers at community colleges across the country, there are examples of programs that have dramatically improved success rates. The most frequently cited model of success for improving completion rates, particularly for low-income students, is the CUNY ASAP program, which nearly doubled the three-year graduation rate amongst participating students, from 22 percent to 40 percent, by offering financial incentives, limited course options, cohort-based blocked courses, and drastically reducing the typically large student to adviser ratios down to 70 to 1. While the program cost $16,300 more per-pupil over three years, roughly 60 percent more per student, research by MDRC has shown that it reduced the amount spent by the college per degree by 10 percent.[105]

The ASAP study can serve as a sort of adequacy benchmark of what's required to properly educate community college students. This type of adequacy study is one of the recommended next-steps from a recent report on community college success from the Century Foundation; a common practice in the K-12 landscape, but rarely done at the college level. One notable example came out of the California Community College Chancellor's Office over a decade ago, called "The Real Cost Project," in which they derived a cost-estimate that would increase their full-time equivalent student expenditures by over $4,000.[106]

The additional resources needed to run the type of intensive programs that are yielding positive outcomes for students will need to come from the state, as the colleges are limited in what they can raise from property taxes and tuition. 60 percent of the community college budget in California comes from the state's general fund, while just 20 percent of funding for Michigan community colleges comes from state sources.

CONCLUSION: PRE-K TO 16 EDUCATION IN MICHIGAN

At every level of a child's education, we see enormous gaps between the affluent and non-affluent, both in educational outcomes and the resources that go into producing those outcomes. These gaps are the product of increasing inequality, residential segregation, and ever-increasing investment by affluent parents into their children's development, but they've been exacerbated by a lack of public investment at every level of a child's education. What we're left with is an education system in which affluent children receive the education needed to participate in the 21st century economy, while everyone else is left with something less. It's time for public investment to compensate for, rather than compound these gaps, and to design an education system that equips all students with the tools needed to thrive in an ever-changing 21st century economy.

II. HUMAN CAPITAL

The system of education outlined above calls for drastic changes from the status quo. However, any one of those reforms will fall flat if we don't have the right people working in and leading our schools and school systems.

If we're designing an education system built around the 6 Cs, it's critical that the individuals working in and supporting our schools are themselves masters of the 6 Cs. They must be creative, critical thinkers, eager collaborators, and good communicators, who are curious about the world and have deep content knowledge, paired with a lasting commitment to education. In other words, we want the "best and brightest" to be teaching in and supporting our schools.

EARLY CHILDHOOD

This is true at every level of a student's education, from birth through college. Earlier in the paper, we mentioned the need for increased professionalization of the early childhood education workforce. Understanding how young children learn, and the experiences that best promote healthy development, is endlessly complex work. We need an early childhood education workforce filled with experts in child development, who are passionate about the work.

As outlined above, this means significantly increasing both the pay and the qualifications for early childhood educators, and requiring all providers to participate in the Great Start to Quality rating system, which would push providers to hire and develop a highly-qualified staff.

K-12

Our K-12 teaching force also needs a makeover. One difference between the United States and the highest achieving nations is the relative lack of selectivity in U.S. teaching programs. In a 2010 report called *The Talent Gap*, McKinsey and Co. found that in high-achieving Finland, South Korea, and Singapore, 100 percent of their teachers are recruited from the top third of high school graduates, as measured by grades and test scores. In the U.S., on the other hand, just 23 percent of teachers come from the top third. This number drops to 14 percent for high-poverty schools. More than half of those earning teaching degrees every year do so at low-selectivity institutions.[107]

For all the other changes we can make, if we don't get more high-caliber candidates, masters of the 6 Cs, into our teaching pipeline, our education system is unlikely to improve. This is particularly true as we try to move beyond filling in bubbles on a test, and towards the development of a 21st century skill-set.

To replicate the success of high-achieving nations, and get top talent to consider careers in education, we need to examine policies pertaining to who enters the teaching profession, the training they receive, the conditions under which they teach, and the type of professional opportunities available to those that go into education.

Who wants to become a teacher?

To start, current levels of teacher compensation aren't high enough to attract top students into the profession. Nationally, teachers start at roughly $40,000, and achieve an average maximum of just $67,000. McKinsey's analysis of "top third" college grads suggests that to move the proportion of "top third" teachers in high need schools from 14 percent to almost 70 percent would require starting salaries of around $65,000, topping out at $150,000 over a career.[108]

This is not outlandish when compared with teaching salaries in high-achieving nations. In South Korea, starting primary teachers earn 128 percent of GDP per capita, and after 15 years on the job teaching is one of the more highly paid professions, at 221 percent of per capita GDP. In Singapore, starting salaries are competitive with other well-paid knowledge work, and salary increases plus a series of retention bonuses place salaries at almost 200 percent of GDP per capita after 15 years of teaching.

Meanwhile, the U.S. starts teachers at roughly 80 percent of GDP per capita, with salaries rising to 96 percent after 15 years teaching.[109]

Finnish teachers earn just slightly more than their U.S. counterparts as measured against GDP per capita, but due to the compression of professional salaries across the Finnish economy, teacher salaries compare reasonably well to other professional options for similarly educated Finns. In the U.S., on the other hand, salaries are far lower for teachers than for other work highly educated college grads can obtain.[110] And this gap has grown significantly over the past forty years. In New York in 1970, a starting lawyer at a prestigious firm would make roughly $2,000 more than a beginning teacher at a public school; they now make over $100,000 more.[111]

How are teachers trained?

On top of higher salaries, we also need a sea change in teacher training, both in terms of the selectivity of training programs, and the type of training teacher candidates go through. As previously mentioned, teacher training programs in high-achieving nations pull only from top applicants, and even within this select group there is competition for admission.[112] The selectivity of teacher preparation programs goes hand-in-hand with higher pay to attract potential candidates.

But in addition to selectivity, the actual content of teacher preparation programs is also in need of an overhaul. In the United States, there is no standard teacher preparation program that ensures the transmission of a consistent set of professional and content knowledge needed to do the job. Instead, there are over 1,500 teacher preparation programs in the U.S., encompassing everything from traditional university-based programs to alternative certification programs, from those that last years to those that last just a few weeks, and from those requiring teacher-candidates to spend a good deal of time practicing in classrooms, to those that require very little classroom experience.[113]

This, again, is an anomaly when compared to high-achieving nations. In Singapore, a single institution offers teaching credentials – the National Institute for Education – with a uniform approach to teacher education. Similarly, in Finland, the approach to teacher education is uniform and rigorous. Teachers receive grounding in their specific subject matter, in pedagogy, in education theory, and in classroom practice. All teachers must also earn a master's degree, conducting their own research and resulting in a master's thesis.[114] It's this rigorous training that contributes to the high levels of prestige earned by teachers in Finland, where teaching is thought of as a creative, intellectual pursuit, rather than the rote, scripted style for which we've gained a reputation.[115]

The intensive training they receive isn't the only thing that earns Finnish teachers prestige. The high-level of autonomy given to Finnish teachers also generates respect for the profession. Teachers have significant control over their curriculum (the broad outlines of the "what" is dictated centrally, but not the "how") and over how they assess student learning. All assessments of the teachers are done internally, by school leadership and fellow teachers, and used for improvement purposes, not sanctions.[116]

Meanwhile, in the U.S. nearly everything is dictated to teachers, removing teacher discretion and creativity, and they're assessed in large part by policymakers and value-added evaluation models.

In other words, while teaching in Finland is an intellectual task, calling for creative and curious individuals, teaching in the U.S. is something to be scripted, monitored, and sanctioned.

A final critique of our education human capital system is that we fail to provide teachers avenues for professional growth. In Singapore, on the other hand, all teachers enter a professional pathway from the moment they start teaching, choosing between a master teaching track, a leadership track, and a specialist track focusing on curriculum and assessment.[117]

It should be noted that while not found in the U.S. education system as a whole, certain high-performing charter school networks across the country do regularly make these sorts of professional pathways available to their teachers.[118]

Central office talent

While the discussion thus far has focused only on teachers, we need top talent at every level of our education system. Some of these individuals will come from the classroom, others will come from outside of education. But what's important to understand is that in order to make schools work, you need far more than just teachers and a principal. One of our key learnings from the Michigan Future Schools initiative was that successful schools are supported by strong central offices, responsible for the educational design of the school and offering a vast infrastructure of supports in everything from teacher recruitment, to curriculum design, to fundraising, to HR.[119]

In order to get top talent both in schools and supporting schools, we need a set of policies that enable the development of more high-quality central offices. Through our state's unregulated expansion of charter schools, we've ended up with a collection of stand-alone schools that largely lack the supports that a high-quality central office provides. This means that teachers and leaders in these

schools are without an infrastructure to support their professional growth and provide career opportunities. Only through strong central offices – be they traditional district central offices or the central offices of a network of charter schools – can the right processes for recruiting, developing, and retaining top talent throughout a school system be put into place.[120]

What can Michigan do?

While our decentralized education system presents plenty of challenges, the good news is that it leaves states with quite a bit of room to innovate. If we choose to do so, we can build a human capital system in Michigan that puts top talent into our K-12 schools and school systems.

A first step would be following the proposed reforms in Section I. Better funded schools will allow for better teacher pay, adequate resources, and adequate facilities, making the job more attractive. And a set of standards pegged to the 6 Cs, together with an accountability system using multiple measures, will help to recognize teaching for the complex task that it is.

In addition, much can be done through state charter school policy to build the high-quality central offices needed to recruit, retain, and develop high-quality educators. The current lack of quality control and unregulated growth of charter schools prevents both the sustainability of strong district central offices, and the creation of high-quality charter school networks.

But on top of these system-wide reforms, we can also do more to directly address how teachers are selected and trained. *The Talent Gap* report by McKinsey and Co. calls for the development of pilot programs that seek to model what a "top third" human capital system would look like. Such a pilot program in Michigan could be built in partnership with a single school district or charter school network and a single teacher preparation program. New teachers for that district/network would train in the program, district leaders would inform program design, and district classrooms would be used for the "practice" portion of the program.[121] The program design would be built by both by practitioners and academics. And the program would have a residency component, modeled after the urban teacher residency programs, whose graduates stay in teaching at far higher rates than teachers on the whole.[122]

The idea behind the pilot project would be to try and make a wholesale change in a single district or charter school network, in the way teachers are trained, compensated, and supported.

While not a systemic solution, such a program could provide a standard for how an ideal teacher preparation system could operate in Michigan, with higher salaries offered to new teachers, in exchange for far greater selectivity in admission and a more intensive teacher preparation program.

HIGHER EDUCATION

As previously mentioned, the actual quality of teaching in our higher education institutions is often the forgotten factor in discussions of higher education attainment.

By and large the higher education workforce certainly doesn't suffer from lack of talent, made up of subject-matter experts with graduate degrees who've demonstrated their ability to think critically and make original contributions to their field.

The issue in higher education, however, is that while instructors have proven themselves to be high-quality researchers and scholars, there's wide variation in actual *teaching* ability and faculty development opportunities on university campuses. And as we've seen in Arum and Roskina's *Academically Adrift*, this can often mean minimal learning for students.

More attention should be paid to the development of university faculty as instructors. The University of Michigan's Center for Research on Learning and Teaching is the oldest university-based teaching center in the country, and offers U of M instructors resources, evaluations, and research-based guidance on how to improve instructional practice.[123] These types of efforts should be widespread.

But in addition to increasing the level of professional development faculty receive, we also need to reverse the growing trend towards using adjunct, rather than full-time, tenure-track faculty. Over the past decade, as state support for higher education has decreased and colleges have sought to cut budgets to keep tuition down, the hiring of adjunct faculty – hired at low salaries, with minimal stability, and no benefits – has skyrocketed, up 286 percent nationally since the mid 70s. This is bad for students. These faculty are often paid poorly, leading them to take on multiple teaching positions, devoting less time to each individual course, and with less time to spend with students outside of class.[124] More state support is needed to ensure our colleges and universities don't have to rely on contingent, part-time staff, and the institutions should be required to devote the needed resources to hire and retain a quality full-time teaching force.

CONCLUSION: HUMAN CAPITAL IN EDUCATION

Regardless of the levers we pull, if we want to have an education system that develops the 6 Cs, the teachers in those classrooms and the leaders in those schools and networks need to be masters of the 6 Cs themselves. And this, by and large, means that we need to be filling our education system with top talent, putting a career in education on par with a career in law, medicine, finance, and technology. As the McKinsey report notes, "Ignoring (the examples of high-achieving nations) would be to stake America's future on a questionable form of American exceptionalism – in this case, on the idea that the U.S., alone among nations, can prepare its children to thrive in a global economy while relying on lower-achieving graduates to teach them."[125]

III. INTEGRATION

The goal of many of our recommendations is to deliver to non-affluent students the education already provided to the affluent. This wouldn't be an issue, of course, if our schools and neighborhoods weren't segregated by class in the first place.

The reason we have two separate educational tracks is because we have a system in which affluent children go to school with affluent children and non-affluent children go to school with non-affluent children. This section addresses what we can do to reduce the high levels of income segregation we see in our K-12 schools, and achieve an equitable education system by ensuring that non-affluent children receive the same education as affluent children, by sitting in the very same classrooms. We make these recommendations with the understanding that using policy to force the integration of neighborhoods and schools has not worked and probably has exacerbated the problem.

INCOME SEGREGATION IN AMERICA

The income segregation we see in our schools mirrors the high-levels of residential income segregation in America. Affluent households increasingly live around affluent households, and poor households around poor households. In 1970, 17 percent of families lived in upper-income areas, and 19 percent in low-income areas, with 65 percent living in middle-income areas. By 2012, however, more and more families lived among those with similar incomes, with fewer living in mixed-income neighborhoods: 30 percent lived in high-income areas, 30 percent in low-income areas, and 40 percent in middle-income areas.[126]

The value of integration is that investments made by affluent families – in schools and public services – spill over and positively impact low and middle-income families that live in the same neighborhoods. With the classes cordoned off from one another, there's little chance for spillover to occur.[127]

INTEGRATION AND MOBILITY

In 2015, Harvard economist Raj Chetty and others published two studies with one central conclusion: where you grow up matters a great deal. The studies found that moving from a high-poverty to low-poverty neighborhood, early in life, has a large positive impact on college-going and future earnings.[128] While the impact of neighborhoods on life outcomes has long been the subject of scholarship, U of M economist Justin Wolfers wrote in the New York Times that the two Chetty studies are "the most powerful demonstration yet that neighborhoods – their schools, community, neighbors, local amenities, economic opportunities and social norms – are a critical factor in shaping your children's outcomes."[129]

Why might low-poverty neighborhoods have such a dramatic positive impact on a child's development? First, moving to a low-poverty neighborhood gives a child the opportunity to attend a low-poverty school. Research since the 1960s has found the composition of a school's student body to be more strongly related to achievement than any other school factor.[130] The increased achievement of non-affluent students in affluent schools is one of the most consistent findings in education research, with some studies finding student achievement to be more correlated with the background characteristics of a student's classmates than with a student's own background.[131] There is perhaps no better lever to improve educational outcomes for non-affluent students, than to send them to middle-class schools.

But in addition to the opportunity to attend a low-poverty school, a child's neighborhood impacts virtually every aspect of her life, from exposure to crime to health outcomes to the perception of order – all of which influences a child's odds of success.[132] As Paul Tough writes in *Helping Children Succeed*, neighborhoods of concentrated poverty have "few resources to nurture children and countless perils to wound them, physically or psychologically or both."[133] To the extent an unstable or chaotic neighborhood inhibits the development of a child's cognitive infrastructure, and fails to offer the enrichment opportunities that affluent children take for granted, growing up in a neighborhood of concentrated poverty can handicap a child for life.

Below are some ideas for how we might achieve greater economic integration in our neighborhoods and schools here in Michigan. It should be noted that school integration can be achieved even if neighborhoods remain segregated by class, so we'll go through housing and school-based interventions separately.

Regardless of the specifics, we need to recognize income segregation as a core problem, institute state policies that specifically target both neighborhood and school integration, and collect data on the extent to which our schools and neighborhoods are economically mixed. Absent that, we can count on the perpetual reproduction of two separate societies – one affluent, one not.

RESIDENTIAL INTEGRATION

Residential income segregation in major metropolitan areas is a national problem, and Michigan is no exception. In the Detroit Metropolitan area, over half of all households live in a highly-segregated area, where the majority of households are either upper income or lower income.[134] Detroit and neighboring Grosse Pointe share one of the most segregating borders in the country, with a poverty rate in Detroit of nearly 40 percent against a poverty rate in Grosse Pointe of just 3 percent.[135] Getting more low-income individuals across segregating borders needs to be a top priority.

Encouraging integration through better use of federal housing funds

In 2014, the federal government provided $50 billion to states in housing assistance programs for low-income households.[136] Roughly half that spending is in the form of Low Income Housing Tax Credits and Housing Choice Vouchers, two programs that have the potential to encourage socioeconomic integration in our metropolitan areas, but are currently falling well short of that goal.

The Housing Choice Voucher program is designed to not only help low-income families afford housing, but also to afford housing in better neighborhoods. Nationally, however, only 14 percent of families that use a voucher move to a census tract with a poverty rate of under 10 percent, while 32 percent using a voucher continue to live in extremely poor neighborhoods, with a poverty rate of over 30 percent.[137]

Currently, data on the outcomes of HCV recipients in Michigan is not being collected in a transparent way. An initial step would be for the Michigan State Housing Development Authority (MSHDA) to have local housing agencies report out on the details of every HCV allocated: who the voucher went to, what type of neighborhood they were living in prior to receiving the voucher, and what type of neighborhood they moved to. The state could also provide incentives to local housing agencies that effectively collaborate in moving residents from high-poverty to high-opportunity areas. Neighborhood mobility should be a core mission of our local housing agencies, and there are national models to show us the way. The Baltimore Housing Mobility Program provides voucher recipients with budgeting and financial education; bus tours of potential high-opportunity neighborhoods; and two-years of post-move counseling. From 2003 to 2009, the program moved over 1,500 families to low-poverty, racially integrated neighborhoods, on average moving families from neighborhoods that were 33 percent poor, with a median income of roughly $24,000, to neighborhoods that were 7.5 percent poor, with a median income of roughly $48,000.[138]

In addition to better mobility counseling from LHAs, we can also adjust the value of the vouchers to encourage moves to low-poverty neighborhoods. In 2011, the Dallas Housing Authority began adjusting the voucher ceiling based on zip code, rather than using the same ceiling for an entire metropolitan area. Low-poverty, higher-rent areas were eligible for a larger voucher, while the voucher was reduced in high-poverty, low-rent areas. This allowed recipients to use their vouchers in low-poverty areas, and gave them an incentive to do so. Researchers from Harvard estimate the policy will lead to increased incomes for voucher recipients, referencing Chetty's research on neighborhood effects.[139]

In addition to HCV funding, states also receive federal funds that can be used for integrative purposes through Low Income Housing Tax Credits (LIHTC). LIHTCs are allocated to state housing agencies to be awarded to developers that commit to renting some percentage of their units as affordable. Credits are awarded to developers on a competitive basis, based on how many points they're awarded on a state's Qualified Allocation Plan.

The LIHTC program, and the state's qualified allocation plan, present a great opportunity to prioritize funding towards not just making housing affordable for non-affluent families, but making housing affordable in high-opportunity neighborhoods. In Michigan's QAP, no points are currently awarded for projects sited in high-opportunity neighborhoods, typically defined as census tracts in which less than 10 percent of residents are below the poverty line. It's also not clear that any LIHTC funds in Michigan are going toward projects that encourage integration. Instead funds often go to projects in high-poverty census tracts, further locking in the historical geography of affordable housing.[140]

However, best-practices are emerging from states that are trying to leverage federal LIHTC funds to locate affordable housing in high-opportunity areas. Connecticut, Georgia, Louisiana, Maryland, Massachusetts, Minnesota, New Jersey, North Carolina, Ohio, Virginia, and Pennsylvania all prioritize high-opportunity locations in awarding points to developers through their QAPs.[141] This is a clear first step that Michigan can take.

But in addition, the state can track much more data on how LIHTCs encourage integration goals. The state could report out on the poverty rate of the census tract in which the project is located, the percentage of the units set aside as affordable, at what percent of the "area median income" and for how long, identify obstacles for development, and set goals for the appropriate number of units that should be built and preserved in high-opportunity areas.[142]

Zoning legislation

In order to truly provide opportunity and create more mixed-income neighborhoods, we need every community in the state to do its part, and many states have passed legislation to that end.[143] While they all differ slightly, several states have passed laws requiring all municipalities to develop a plan for the accommodation of affordable housing, and report out on their progress towards reaching affordable housing goals. Failure to achieve progress on those goals leave municipalities subject to a state override of local exclusionary housing policies. In New Jersey, all municipalities must make a plan to accommodate their fair share of affordable housing, submitted to an independent council; in Massachusetts, developers who are blocked by exclusionary zoning policies in localities with limited affordable housing can appeal to the state to override local regulations; and in Rhode Island, Connecticut, and Illinois, 10 percent of housing in all municipalities must be deemed affordable, with developers able to get around local exclusionary zoning policies if adequate progress is not made.[144]

All policies are a far cry from anything we have on the books in Michigan. Instead of a statute promoting the provision of affordable housing, we have a law preventing the passage of any ordinance that restricts the amount of rent a private developer can charge. This statute can prevent communities from implementing inclusionary zoning policies, in which a portion of new developments in high-opportunity areas must be set aside as affordable, generally in exchange for a "density bonus," expedited permits, or reduced construction costs.[146] Changing this law to allow for inclusionary zoning is clearly a step we need to take.

A frequently cited case of successful inclusionary zoning comes from Montgomery County, MD, where in 1974 the county adopted a policy whereby 12.5 percent to 15 percent of all new housing construction was required to be made affordable for low and moderate income individuals, with a third of all affordable units eligible for purchase by the housing authority for public housing (to allow for rentals to very low-income individuals). Later research found that low-income children that moved to affordable units in low-poverty areas experienced academic gains substantially above their peers who remained in high-poverty neighborhoods, both due to the effect of attending economically integrated schools, as well as living in a more economically integrated neighborhood.[147]

In addition to inclusionary zoning policies for high-opportunity neighborhoods, Richard Kahlenberg of the Century Foundation advocates for a statewide fair housing act to eliminate exclusionary zoning policies which prevent affordable types of housing from being built in high-opportunity neighborhoods.[148] A first step could be a study evaluating the zoning laws in Michigan municipalities, highlighting those which might be considered exclusionary.

Creating affordable housing in high-opportunity neighborhoods in central cities

In rapidly developing central cities, the identification of high-opportunity neighborhoods, and the preservation of affordable housing in those neighborhoods, is also critical. The danger is that while there may be ample affordable housing in a city as a whole, low and middle-income families may be priced out of high-opportunity neighborhoods within the city.

This may mean including a requirement that a certain percentage of each census tract in central cities remains affordable. There are many ways this can be accomplished. Government agencies or mission-driven non-profits can purchase subsidized properties in gentrifying neighborhoods set to expire in order to maintain affordability, can capture revenue from new development to be used for the development of affordable housing in developing neighborhoods, and can require new developments to have affordable set-asides.[149] Whatever the mechanism, the key is having in place the requirement that a certain portion of housing in high-opportunity or soon to be high-opportunity neighborhoods remains affordable.

SCHOOL INTEGRATION

School integration is clearly easier with integrated neighborhoods. However, regardless of the progress we make on residential integration, there are policies we can implement to help integrate our schools.

At Michigan Future, we believe that schools can provide students with an excellent education regardless of the socioeconomic status of the students in the school. However, decades of research have demonstrated that improving schools of concentrated poverty is not enough. We also need to provide opportunities to economically integrate schools, to give non-affluent students a better shot at a 21st century education.

School integration policies can be either intra-district or inter-district in nature, with certain policies applicable to both classifications. While achieving within-district integration is a good starting point, much of the housing/neighborhood segregation we see both in Michigan and nationally exists between districts, rather than within them. For example, in the Detroit City School District half of the students are below the federal poverty line, and nearly 80 percent of all students attend a high-poverty school, defined as one in which 75 percent of the students are eligible for free or reduced price lunch.[150] Achieving intra-district integration in this setting would be impossible – there simply aren't enough affluent students. Therefore, traditional policies to achieve integration (expanded school choice, common enrollment systems, strategic weighting in charter school admissions) would have no integrative effect. Any meaningful policies to achieve school integration would have to include coordination with suburban districts.

Here are some common tactics that have been used across the country to achieve greater economic integration in public schools, mostly across districts, providing opportunity to millions of students.

Magnet schools

A common lever for achieving economic integration in schools, particularly in urban areas with a dearth of middle-class families, is the creation of well-resourced, theme-based magnet schools designed to attract middle-class students from suburban districts. Efforts in Hartford, CT provide the best example of this strategy. As part of the settlement of a 1996 civil-rights suit, the state agreed to a voluntary racial integration program built around high-quality magnets in the city to attract suburban students, and financial incentives to suburban districts to enroll students from the city.[151] Both of these efforts – the creation of high-quality magnets in the city and diversity incentives to suburban districts – required significant state funding. The program has had remarkable success, with the percentage of Hartford students attending integrated schools moving from 11 percent at the start of the program to 50 percent today.[152]

And we don't need to wait for a court ruling. When former Secretary of Education John King was the education commissioner for New York State, they used their federal school-improvement funds to create high-quality magnet schools in central cities, designed to encourage integration.[153]

School-choice and diversity incentives

The magnet schools program in Hartford would not have achieved the success it had were it not paired with funding to encourage suburban districts to take in more Hartford students, transport them to those schools, and support them once enrolled. A similar policy has been in place for years in Minnesota, through what they call integration revenue, which is used to fund a whole range of integration efforts between neighboring districts, including financial incentives to districts that take in more black students from neighboring districts.[154]

Charter school enrollment

Similar to magnet schools, intelligently designed charter schools can also be used to advance integration goals. Though up until now charters have further segregated students by race and class, targeted outreach and the strategic weighting of students' economic characteristics can and have been used to achieve racial and economic integration in charter schools.[155] The Mayor's Academies around Providence, RI are regional charter schools strategically sited on urban/suburban borders to draw a diverse population of students.[156] In addition, charter schools committed to socioeconomic diversity in their student body can give preference to non-affluent students in enrollment or enrollment lotteries. However, a school's ability to do this likely requires clearance under state law. Michigan should pass legislation giving schools the authority to diversify their student bodies by income.

Regional consolidation

While not without political challenges, there are examples of urban and suburban districts consolidating into a single regional district and using student assignment policies to achieve socioeconomic integration. Wake County, NC and Jefferson County, KY are the two most prominent examples. Wake County used student assignment to limit the proportion of free or reduced price lunch eligible students in a school to 40 percent, and Jefferson County used a choice-based common enrollment system that also gave weight to desired socioeconomic integration outcomes.[157]

While nearly 80 percent of Detroit students attend a high-poverty school, across the entire metro region only 21 percent of students do.[158] Regional consolidation offers the best chance to comprehensively integrate our schools.

Early college and dual-enrollment

Another way to achieve socioeconomic integration is to get non-affluent students onto college campuses, and particularly four-year college campuses, while they're still in high school. As referenced earlier, a substantial body of school integration research has found that the *composition* of the student body that a student goes to school with is the best predictor of that student's a chievement.[159] In other words, peer effects, or the effect that a student's classmates have on that student's own learning, habits, and mindsets, are really important. Getting non-affluent students on college campuses while they're still in high school exposes them to enormously positive peer influences that can have an outsized impact on their academic behavior and college-going aspirations.

There are two main ways high schools can integrate college classes into the high school curriculum. The Early College model locates the high school on or near a college campus, and college coursework is a standard part of the high school curriculum. Students prepare for college courses in the early grades, demonstrate readiness, and then take college courses and earn college credit as they progress through high school, accumulating a significant amount of academic momentum as they transition to full-time college enrollment. The early college model seeks to blend the traditionally stark divide between high school and college, pushing secondary schools to be explicitly designed to develop college ready students. Replication of these models should be encouraged.[160]

In addition to the early college model, many schools try to integrate college experiences into the high school curriculum through dual-enrollment opportunities. In dual-enrollment programs, students still take the majority of their courses at the high school, but may travel off-site during the school day to take courses on college campuses. There are many other ways that schools try and give their students dual-enrollment opportunities, such as having an adjunct professor teach a college course at the high school, but it's our belief that for dual-enrollment to have a meaningful impact on students, the class needs to take place on a college campus, taught by a college professor, and alongside college students. The power of dual-enrollment is not only exposure to college-level content, but also exposure to the college experience, allowing students to try on the identity of "college student," and benefit from positive peer influences.

Michigan could be doing much more to encourage students to participate in dual-enrollment opportunities. Currently, the cost of a college course for a student who wants to participate is paid through a combination of a portion of the per-pupil foundation grant and a family contribution. This presents a disincentive to participation both for the schools and the student: schools lose some of the student's foundation grant, and there's a cost to families, which may be prohibitive for non-affluent families.

Other states have programs in place to encourage dual-enrollment participation. Tennessee uses state lottery funds to provide dual-enrollment grants to eligible student applicants, and require a minimum GPA in their college coursework to be eligible for subsequent grants.[161] We need to structure policies in Michigan that encourage non-affluent students to gain enriching experiences on college campuses while still in high school.

State and regional involvement

All of the above policies require significant involvement from state governments and regional organizing bodies. The integration program in Hartford required state funding to create well-resourced magnet schools, transport Hartford students to suburban districts, incentivize the receiving districts, and create a regional office charged with marketing the Hartford magnets to suburban parents and placing Hartford students in suburban schools.[162] Similarly, in Minnesota the state provides funding to school districts partnering on integration efforts, and regional "integration districts" strategically site charters and magnets and coordinate student enrollment in out-district schools.[163] Integration won't happen without the state playing an active role.

CONCLUSION: INTEGRATION

While we believe that all schools, no matter who they serve, can provide an excellent education, integrating our neighborhoods and schools by class is the most powerful lever for ensuring all kids are afforded an opportunity in life. Socioeconomically integrated neighborhoods offer non-affluent students the environment and experiences that encourage healthy development. Socioeconomically integrated schools expose non-affluent students to a range of positive peer effects and school investments that encourage the development of 21st century skills. It's time we recognize the importance of integration, and put policies in place to make progress towards that goal.

CONCLUSION

The economy is changing rapidly and continuously. No one can accurately predict what jobs will exist 10 years from now, and what jobs are next to be automated. What we do know is that more and more humans will be called on to execute the most human of tasks – those that involve communication, empathy, understanding, curiosity, critical thinking, and creativity. Whether or not students develop this broad range of skills is highly dependent on the education they receive. As it stands, affluent students receive an education designed to develop these skills, while everyone else receives an education focused on the rote skills that represent only a fraction of what's needed for success in today's economy, and are, too often, told that college isn't for everyone.

If Michigan – and Michiganders – are to succeed over the next generation, this can no longer be the case. We need an education system that prepares all students for a world in which machines are taking over the algorithmic tasks, and humans are needed to create, collaborate, empathize, and problem-solve. We need educators who are adept at these skills, and are eager to help students develop the same competencies. And we need schools and neighborhoods where students aren't cordoned off by class, but instead brought together so that all children have childhoods filled with enriching experiences.

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Michigan Future Inc.
P.O. Box 130416
Ann Arbor, MI 48813
734.747.8120
michiganfuture.org