Projected Statewide Impact of "Opportunity Culture" School Models

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SUMMARY

This brief estimates the impact of a statewide implementation of Opportunity Culture models, using North Carolina as an example. Impacts estimated include student learning outcomes, gross state product, teacher pay and other career characteristics, and state income tax revenue. Opportunity Culture models extend the reach of excellent teachers to more students, for more pay, within budget—typically in collaborative teams on which all teachers can pursue instructional excellence together and are formally accountable for the students they serve. For purposes of analysis, excellent teachers are defined as those producing an average of approximately one standard deviation of student learning growth above the mean—a year and a half worth of growth annually. In practice, pilot Opportunity Culture schools identify excellent teachers using variations of this growth standard along with other quantitative measures of impact on student learning and observable measures of teaching contributions.

Using conservative assumptions, we analyzed the cumulative impact over the years when the current generation of children will graduate from high school, or approximately 16 years of implementation. We assumed slippage of excellent teachers' average impact on students when they extend their reach. For example, a whole team may not perform to the teacher-leader's high standard, even if the team teachers improve significantly. We also assume here that "full implementation" means reaching three-quarters of classrooms in core subjects, even though greater reach and inclusion of other subjects are possible.

Analyses indicate that if schools implement an Opportunity Culture in three-fourths of North Carolina's classrooms:

- Students on average would gain 3.4 more years' worth of learning than in a traditional school model in the K–12 years.
- Teachers leading teams would earn up to $848,000 more in a 35-year career, with considerably higher figures possible for large-span teacher-leader roles not included in this analysis.*
- Teachers joining teams to extend their reach could earn approximately an additional $240,000 over their careers.*
- State income tax revenue would be up to $700 million higher in present-value terms over 16 years of implementation.
- State domestic product would increase by $4.6 billion to $7.7 billion in present-value terms over the next 16 years.

All figures are shown in today's dollars using the assumptions included in the Methodology section (page 6). When results become available in a large enough number of schools for statistical validity, we will publish

* This analysis does not presume that starting base pay is set at the correct level. In our example state, North Carolina, pay is approximately 20 percent lower than the national average, near the bottom of U.S. rankings. We have separately suggested that a 10 percent investment in higher pay is needed to make this particular state attractive to both effective and highly effective teachers. Such an investment with additional Opportunity Culture pay would increase career pay of some teachers—those who progress rapidly to team leadership—by more than $1 million. This also equates to the projected extra career earnings of top teachers in states with pay closer to the average *already* (with no additional pay investment).

estimates using updated figures. Probable reduced public costs are *not* included in these figures, such as reduced health costs, lower incarceration costs, and decreased food and housing subsidies when more students achieve at higher levels. Nor do we include the possible financial benefits from reallocating these public expenses toward other public investments or lower taxes.

This report briefly describes the Opportunity Culture school models, potential benefits, and steps and policies needed for transformation.

INTRODUCTION

This brief estimates the potential impact of redesigning traditional school models to extend the reach of excellent teachers and teams to more students across a state. It indicates that a statewide adoption of Opportunity Culture models has the potential to improve student achievement, increase teacher pay, provide new career paths and team models within teaching, and produce substantial benefits for state economies. After the costs of transitioning to new models, the benefits can be fully funded within existing budgets. Additional funding could increase teacher compensation further, if invested this way.

As more districts in more states adopt these models, the scope and ambitiousness of implementation, and the base funding level of education in each state and district, will affect relative benefits to students, teachers, and the public.

Using North Carolina as an example, this brief provides an analytical framework that any state could use to estimate the benefits of transitioning to an Opportunity Culture. It discusses transition issues and options, and the major policy barriers that school and district leaders may face when implementing an Opportunity Culture across a state.

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The Challenges:

- Despite decades of reform efforts, student achievement in the United States has stagnated while students in other nations have surged ahead academically.[1]
- Teaching remains a "solo practice," preventing innovation and the spread of excellence in instruction, and trapping teachers in careers without on-the-job learning, time for collaboration, or opportunities for paid career advancement within the classroom.
- In the wake of the Great Recession and with mounting employee retirement obligations, many state and local governments are being cautious about resources to fund education budgets.

Yet the need to produce a 21st-century workforce and secure future economic prosperity is urgent.

A Solution: Statewide Adoption of Opportunity Culture Models

In an Opportunity Culture,[2] schools redesign traditional classrooms and teaching roles to extend the reach of excellent teachers, directly and through leading teaching teams, for more pay, within budget. When implemented across whole schools and districts, good, solid teachers can also extend their reach in teams, for more pay, with on-the-job development led by outstanding peers. Students benefit by having more frequent access to teachers who induce higher levels of student learning.

As of spring 2014, four districts nationally are piloting Opportunity Culture models, and one, Charlotte-Mecklenburg, is taking its pilot efforts to scale based on early recruiting results and demand from schools. (See box on page 5.)

In all cases, school design teams that include teachers adhere to the Opportunity Culture Principles (at right) in redesigning their schools. Within these principles and state policy limits, school teams have flexibility to redesign their schools.

Opportunity Culture Principles

Teams of teachers and school leaders must choose and tailor models to:

1. Reach more students with excellent teachers and their teams
2. Pay teachers more for extending their reach
3. Fund pay within regular budgets
4. Provide protected in-school time and clarity about how to use it for planning, collaboration, and development
5. Match authority and accountability to each person's responsibilities

School Models That Extend the Reach of Excellent Teachers and Teams

Excellent teachers—those in about the top 25 percent of the profession for student progress—produce an average of approximately a year and a half worth of learning growth each year they spend with their students.[3] In contrast, good, solid teachers produce about a year's worth of learning growth, on average, annually. This distribution closely mirrors the distribution of measured outcomes found among professionals in other fields using a wide variety of measures.[4]

When students experience excellent teaching *consistently*, those who start out behind can catch up, those starting in the middle can move up to honors-level work, and advanced students can leap ahead like top-performing peers worldwide. Teachers at this level also tend to excel at improving students' higher-order thinking skills.[5] Without this high-growth learning consistently, students who start out behind rarely catch up, even with good, solid teachers every year. For example, a student starting two years behind who always makes only a year of progress will never catch up. It takes four years of excellent teaching in each subject, with no intervening low-growth years, for that student to catch up.

Pilot school design teams, composed of excellent teachers and school leaders, tailor Opportunity Culture school models and roles that adhere to the Opportunity Culture Principles and provide:

- On-the-job learning with frequent feedback and support from outstanding peers
- Chances to specialize in each teacher's best subject(s) and instructional role(s)
- Roles for excellent teachers to lead and develop other teachers while continuing to teach
- Career paths that encourage excellence, impact, and teamwork, while also paying more sustainably (not through temporary grants).

Each school's design team tailors the models to meet the needs of its students and make the most of its teachers' talents. These models, which many schools use in combinations, include:

- **Multi-Classroom Leadership**, in which an excellent teacher with leadership competencies leads and develops a "pod" of teachers and one or more paraprofessionals, while continuing to teach, and is accountable for all students in the pod.
- **Subject Specialization**, which lets elementary school teachers teach only their best subjects or subject pairs, such as language arts/social studies or math/science, with support from a new paraprofessional on the team, allowing consolidated planning time and greater reach.
- **Time Swaps**, in which students spend as little as an hour daily on digital instruction or project work and non-digital skills practice supervised by a paraprofessional, freeing time for teachers to reach more students with differentiated, higher-order instruction—in some cases in smaller groups. Teachers also can spend freed time on extra planning and team collaboration.

- **Remotely Located Teaching**, which allows schools with extreme teacher shortages to let a great teacher down the hall or across the state engage students using two-way video and other technology, so that all students, no matter where they live, can have excellent teachers responsible for their learning. These teachers are supported by on-site paraprofessionals and teachers.

A teacher using a Time Swap or Subject Specialization is an example of a "direct reach" teacher—not necessarily a member of a team led by an excellent teacher, though these models are often used in combination with Multi-Classroom Leadership pods.

All of these models save teachers time. In traditional school models, a large portion of teachers' time is spent on noninstructional tasks and basic, repetitive instruction. Opportunity Culture models save and consolidate teachers' time and allow them to reach more students, without forcing class-size increases. The models also free dollars to pay more, by swapping a teaching position on each team for additional paraprofessional support and by shifting non-classroom specialists back into higher-paid, classroom reach-extending roles.[6] Some pilot schools have chosen to increase class sizes slightly, as well, but in combination with increased teacher planning, collaboration, and on-the-job learning. Teachers determine how their freed planning time is used and also manage the use of digital instruction, if any. Some teachers use freed time to increase the number of small-group pull-outs.

Although some of these practices are common in some schools already, they are usually unaccompanied by the scheduling and staffing changes that enable sustainable pay increases, or by the formal establishment of differentiated teaching roles that provide opportunities for career advancement and development in the classroom.

A thoughtful design process is essential to achieve desired outcomes. Teachers are critical members of school design teams. In Charlotte-Mecklenburg Schools' pilot, for example, teachers on school design teams ensured that the new roles addressed student needs and best used the talents of existing teaching staff and job applicants. School characteristics; policy barriers that limit flexibility in staffing, compensation, and budgeting; and new staffing design choices ultimately determine the range of possibilities for career paths and pay supplements.

Implementation of Opportunity Culture Principles requires a new vision of the classroom, one that redefines traditional roles and staffing models.

"The key moment for me was to put the three pieces of the puzzle together — strong teachers, developing teachers, and students—and to see how all parts could benefit. Then I knew—this should be something exciting for everyone."

—Romain Bertrand, multi-classroom leader at Ranson IB Middle School, Charlotte

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CHARLOTTE-MECKLENBURG SCHOOLS EMBRACE OPPORTUNITY CULTURE PRINCIPLES

Under the leadership of Denise Watts, four Charlotte-Mecklenburg schools piloted Opportunity Culture school models in 2013–14. The initiative is part of Project L.I.F.T. (Leadership and Investment for Transformation), a public-private partnership focused on improving academics at historically low-performing, high-need schools in western Charlotte. The Opportunity Culture implementation revealed the willingness of administrators to embrace different approaches to improve instruction, the enthusiasm of teachers to transform their profession and offer more to their students, and the policy changes needed to facilitate widespread implementation.

> *"The need for change and the need to have excellent teachers reach more kids was already a common ground. What made the initial buy-in truly happen was the crunching of the numbers, which showed that the dream could be a reality."* *
>
> —Jessie Becker, Assistant Principal, Thomasboro Academy

At each school, a design team of school leaders and excellent teachers defined the new teaching roles and long-term staffing plans needed to support Opportunity Culture Principles. By extending the reach of excellent teachers and their teams, site leaders reconfigured traditional staffing plans to fund pay supplements ranging from $4,600 to $23,000, depending on the level of responsibility (about 10 percent to 50 percent of average teacher pay in the state). The supplement amounts for common roles were set by L.I.F.T. leadership, in coordination with the district, to align across the schools. In spring 2013, more than 700 teachers applied for approximately 20 slots in four new roles.

The pilot school design teams will continue to revise and improve the models throughout the three-year implementation process.

Inspired by their success and responding to demand from other schools across the district, Superintendent Heath Morrison committed to scaling up the Opportunity Culture models to nearly half of the district's schools by 2017–18. As this brief goes to press, design teams of teachers and administrators are crafting reach-extending models for the first cohort of 17 additional schools, each of which opted into the initiative voluntarily.

Current state policy has prevented the district's average pay supplements from reaching those modeled in this brief. In North Carolina, when schools swap one state-funded position to fund another position or higher pay for teachers, state law currently converts traded-in positions to the *lowest* pay level ($30,800) on the state salary schedule, rather than the *average* pay (approximately $40,000). This forces the district to forfeit state funding, penalizing innovation in career paths, team-teaching models, and higher pay.** For each grade level within elementary schools or department in secondary schools that seeks to establish an Opportunity Culture, the state pulls back $10,000 to $20,000 that teachers on efficient, excellence-focused teams could have earned within their schools' original state allocation.

* Han, J. G., & Barrett, S. K. (2013). *Charlotte, N.C.'s Project L.I.F.T.: New teaching roles create culture of excellence in high-need schools.* Chapel Hill, NC: Public Impact. Retrieved from http://opportunityculture.org/wp-content/uploads/2013/06/Charlotte_N.C._Project_L.I.F.T._An_Opportunity_Culture_Case_Study-Public_Impact.pdf

** The North Carolina analysis demonstrates the salary increases that are possible when this statutory limitation is eliminated.

METHODOLOGY

Public Impact developed an analytical framework using North Carolina as an example, with the latest data on enrollment, achievement, staffing, and compensation, to estimate the benefits of statewide Opportunity Culture implementation.[7] We draw on the North Carolina analysis to illustrate how any state might quantify the benefits of an Opportunity Culture implementation.

We made our estimates of statewide impact using the following assumptions:

- The state transitions to Opportunity Culture models in three-fourths of classrooms over five years.
- Average learning growth by excellent teachers who extend their reach slips from 1.5 years on average to 1.35. This accounts for the possibility, for example, that teachers on a team led by an excellent teacher-leader improve significantly but still do not, on average across the team, achieve the 1.5 years of student growth annually that the teacher-leader has produced previously.
- Team members on reach teams and other teachers extending their reach directly receive pay increases that are an average of 15 percent of average pay.
- Teacher-leader pay increases are an average of 55 percent of average pay.
- The typical allocation of FTE non-classroom instructional specialists per teaching team is an estimated .33 to .66 FTE. Here we conservatively used the lower end of the range, .33 FTE, for projections.
- Most schools have already made investments in technology but would need to increase them somewhat to implement some new models, particularly at the secondary level. We assume a $216 per student incremental technology cost for secondary schools in the North Carolina analysis.
- A "career" for teachers and graduating students is assumed to be 35 years.
- We use the calculations in McKinsey's 2009 report, *The Economic Impact of the Achievement Gap in America's Schools*, to project the impact on the state's economy of improved student-learning outcomes in math alone.[8]

All dollars are expressed in present values; future values are considerably higher.

We do not assume that other social supports for impoverished students become any less important. On the contrary, we expect that projected economic and fiscal benefits will allow states to reinvest in other high-payoff public and private investments to reduce poverty. We conservatively do not include the potential benefits of those reinvestments in the estimated outcomes here. A state might choose to reinvest in other social services or in tax reduction, according to the politics and policy goals of the state.

ESTIMATED BENEFITS OF A STATEWIDE IMPLEMENTATION

Our analysis estimates that statewide implementation would offer significant benefits to students, teachers, and the economy and is budget-neutral after transition.

BUDGET NEUTRALITY

Opportunity Culture models allow fewer teachers to serve the same number of students, without needing to increase the ratio of students to adults in the classroom at a given time. Schools, districts, and states have many options for adapting staffing models to meet their needs and adhere to the Opportunity Culture Principles. We chose the option shown in Figure 1 (page 7) to analyze for North Carolina.

Figure 1. Assumptions About New Staffing Models for Projections

At an elementary school…	At a secondary school…
A grade-level grouping of 4 traditional classrooms *would now be staffed by* • 1 Multi-Classroom Leader / Team Leader (MCL) • 2 Reach Team Teachers • 1 Extra Paraprofessional	A subject grouping of 6 traditional classrooms *would now be staffed by* • 1 Multi-Classroom Leader / Team Leader (MCL) • 3 Reach Team Teachers • 1 Extra Paraprofessional
reducing the need for • 1 traditional teaching role • 0.33 FTE Instructional Facilitator/Specialist	*reducing the need for* • 2 traditional teaching roles • 0.33 FTE Instructional Facilitator/Specialist

The Opportunity Culture models achieve savings through two mechanisms. First, teams add paraprofessionals to supervise digital instruction, projects, and offline skill practice at school, plus noninstructional time for elementary students. This frees teachers to take on extra planning and improvement activities. With paraprofessionals playing these roles, a team requires fewer teachers. Second, when great teachers and their teams reach more students, fewer supplementary non-classroom specialists are needed. The new staffing structure enables instructional support personnel, such as reading and math resource teachers, to enter *higher-paid*, extended-reach classroom roles.

Figure 2. Team-Level Savings Available for Higher Pay in Opportunity Culture Models

	Source of Savings/Costs to Make Pay Competitive	Grades K–5	Grades 6–12
SAVINGS	With leadership, smaller teams of teachers can teach students well	4 → 3 teachers ($45,950)	6 → 4 teachers ($91,900)
	Some non-classroom specialists (e.g., teacher coaches) shift into teacher-leader roles	0.33 FTE per team ($15,510)	0.33 FTE per team ($15,510)
	GROSS SAVINGS	($61,460)	($107,410)
COSTS	New paraprofessionals support teacher teams, saving time for reach, collaboration, and learning	+1 paraprofessional $22,000	+1 paraprofessional $22,000
	New technology is needed for Time-Technology Swaps		$39,000
	GROSS NEW COSTS	$22,000	$61,000
NET	***NET SAVINGS FOR PAY INCREASES***	***($39,460)***	***($46,410)***

Amounts in Figure 2 are rounded for illustrative purposes. In the North Carolina analysis, we used precise (non-rounded) dollar figures. If base pay in North Carolina were moved closer to its historic ranking relative to other states, these figures would change accordingly.

In the analysis developed for North Carolina, new staffing structures would generate an average of $39,460 to $46,410 ***per team*** to fund higher pay for teachers, even after allowing for a moderate increase in per-pupil technology costs for students in grades 6–12.[9]

Career and Pay Benefits for Teachers

Opportunity Culture team models create sustainably funded career advancement opportunities for excellent teachers to lead peers. Teaching teams transform isolated, single classrooms into collaborative environments in which teachers can pursue teaching excellence together and have frequent, job-embedded professional learning time due to enhanced paraprofessional support. In these models, teachers co-plan, co-teach, and co-learn in teams that are fully accountable for all students' outcomes. Specific roles can vary by team, according to the skills of individuals on each team. New staffing and accountability models must be accompanied by scheduling modifications to create shared blocks of time for all teachers on a team to regularly collaborate and learn during the school day.[10]

Opportunity Culture models transform the traditional teaching environment

In most schools, teaching is a solo career endeavor. Teachers work in individual classrooms with limited time for collaboration or on-the-job learning. Opportunities for career advancement take teachers out of the classroom into instructional or content specialist roles or divert them to administrative tracks. Compensation is generally not tied to levels of role responsibility or career advancement within teaching.

In Opportunity Culture models, teachers become eligible for newly defined reach-extending roles by exhibiting teaching effectiveness and competencies such as teamwork and leadership. Excellent teachers—as determined by each state or district's evaluation system—can advance their careers by assuming leadership responsibilities for multiple classrooms or by extending their reach to more students directly. Good, solid teachers can join reach teams to extend their reach directly as well, and earn more for it, while learning from excellent peers and teacher-leaders on the job.

At least one early implementer, Charlotte-Mecklenburg Schools, has adopted a career advancement plan with a progression that rewards excellence in teaching, leadership of peers, *and* persistent commitment to Opportunity Culture team roles; this plan is implemented on top of the state's pre-existing pay structure.

We project that the sustainably paid career advancement opportunities under Opportunity Culture staffing structures will increase the pipeline of excellent teachers.[11] The first two Opportunity Culture pilot sites, Charlotte-Mecklenburg and Metro Nashville, Tennessee, received about 30 applications per open position to work in high-poverty schools, some of which had unfilled jobs previously.

In addition, Opportunity Culture models empower teachers significantly more than traditional school models. Teachers themselves work side by side with administrators to design and improve their schools in these models. Multi-classroom leaders are empowered to lead from the classroom, and both good and great teachers increase their impact on students.

Opportunity Culture models pay teachers more

In Opportunity Culture schools, sustainably funded compensation is aligned with career advancement, paying teachers substantially more for extending their reach, directly and by leading others.

Using North Carolina as an example, we project that members of reach-extending teaching teams can earn pay supplements worth 15 percent of average base pay, on average; multi-classroom leaders can earn supplements worth 55 percent, on average. Figure 3 (page 9) shows how net savings from the new staffing models in Figure 2 could fund these substantial supplements for team members and team leaders.

Figure 3. Cost of Pay Supplements

Teacher Category	Average Salary Before Pay Supplements	Pay Supplement	Supplement Cost (grades K–5) 1 Team Leader 2 Team Teachers	Supplement Cost (grades 6–12) 1 Team Leader 3 Team Teachers
Team Teachers	$45,950	$6,890	$13,780	$20,670
Team Leaders	$45,950	$25,270	$25,270	$25,270
Total Funds Reallocated to Teacher Pay per Team			***$39,050***	***$45,940***

Amounts in Figure 3 are rounded for illustrative purposes. In the North Carolina analysis, we used precise (non-rounded) dollar figures. If base pay in North Carolina were moved closer to its historic ranking relative to other states, pay supplements would increase accordingly.

Over a 35-year career, these pay supplements for extending reach would translate into $241,000 to $848,000 in extra income per teacher, without any increase in education budgets.* (Note: The estimate of $241,000 assumes a 35-year career with a stipend of $6,890. The estimate of $848,000 assumes two years with a stipend of $6,890 and 33 years with a stipend of $25,270.)

Annual and lifetime pay potential for outstanding teacher-leaders could exceed these amounts. Our analysis does not include wider-span teacher-leader roles on larger teams, which could pay even higher supplements.

STUDENT LEARNING GAINS

Excellent teachers produce an average of 1.5 years of student learning growth for each year they spend instructing a group of students.[12]

Opportunity Culture models put excellent teachers and their teams in charge of more students' learning to produce learning gains that begin immediately and build over time. In a traditional classroom model, students have a one-in-four chance of having a highly effective teacher in any given year in a subject. In the Opportunity Culture models described above and analyzed here, excellent teachers are responsible for 33 percent to 500 percent more students, directly and via a teaching team, with no class-size increases.

For our analysis using North Carolina data, we assumed that implementation would begin in year 1, with 15 percent of schools coming on board each subsequent year, ultimately affecting 75 percent of classrooms within five years. For students in schools implementing Opportunity Culture models, to reflect their improved learning that is attributable to excellent teachers' extended reach and the teams they lead and develop, we used a conservative estimate of 1.35 years of achievement gain. As implementation spreads across schools and over time, students spend a greater proportion of their school careers with excellent teachers in charge of their learning, and achievement gains accumulate.

Using the state's mathematics scores on the National Assessment of Educational Progress (NAEP) as a base, we estimated the potential impact of that learning differential.[13] NAEP scores are calibrated such that average annual progress can be approximated as a 10-point increase. In North Carolina, the average annual increase over the four-year period of 2007 to 2011 was 10.32 points, which we used as the basis for growth estimates. Because one year of learning growth in North Carolina is roughly equivalent to 10.32 NAEP points, we modeled the impact of achieving 1.35 years of learning growth, or 13.93 NAEP points, for students in classrooms that

* If base pay in North Carolina were moved closer to its historic ranking relative to other states, these figures would increase accordingly.

adopted the Opportunity Culture Principles (10.32 x 1.35 = 13.93). The number of students affected by this learning increment reflects the implementation progression outlined above.

As Figure 4 shows, the cumulative impact on student learning gains would be substantial, ultimately helping students acquire more than three extra years' worth of learning in a K–12 career.

Figure 4. Cumulative Impact of Statewide Achievement Gains

2014–15 kindergartners gain approximately 2.7 years of additional learning growth over their school careers	→ Achieving growth roughly comparable to attending summer school every year over their K–12 careers
2019–20 kindergartners gain approximately 3.4 years of additional learning growth over their school careers	→ Like earning an associate's degree by 11th grade or shortening college significantly
With students making gains that large, statewide average NAEP scores increase[1]	→ Putting North Carolina on track to top the NAEP leader board in 8th-grade mathematics by 2022

[1]Average annual NAEP gains are 10 points. One standard deviation is approximately 35 points.

Numerous scholars have convincingly established the link between student achievement and lifetime earnings potential. A McKinsey literature review estimated the impact of an increase in achievement of one standard deviation to translate into an 11 percent to 15 percent increase in annual earnings.[14]

Using our calculation of NAEP score gains for North Carolina and applying McKinsey's estimate of subsequent increases in lifetime earnings potential, our analysis projected that the achievement gains attributable to Opportunity Culture models would translate into average lifetime earnings increases of $100,000 to $130,000 per student.[15] This considerable benefit does *not* factor in the increased likelihood of attending college, which is also associated with achievement gains and correlated with even higher earnings potential.[16]

Economic and Fiscal Benefits

Projections based on these analyses indicate that full-scale implementation of Opportunity Culture models would produce significant long-term economic benefits for states. The student achievement gains discussed above build a 21st-century workforce supply for new and expanding businesses.

Prior research indicates that gross domestic product (GDP) per capita increases 1.2 to 2.0 percent for each standard deviation increase in achievement.[17] Applying these findings to the North Carolina case, we estimate an annual increase in gross state product (GSP) of $58 million to $97 million after five years, and $335 million to $558 million after 10 years, in current dollars. If North Carolina began its implementation in 2015–16, then these increases through 2031 would have an estimated net present value of $4.6 billion to $7.7 billion.

The fiscal impact for states accumulates significantly over time as the increase in individual incomes and business growth generates additional revenues from income, corporate, and sales tax receipts. In the North Carolina analysis, additional income tax revenues are projected to exceed $100 million per year once implementation is complete, in current dollars. Over 16 years of implementation, the net present value of this added revenue could reach $700 million.[18]

The student-level social benefits described above have associated public benefits due to reductions in unemployment and public assistance, and to improved health outcomes. [19] The analysis does not quantify these public savings, nor the benefit of reinvesting these and other savings in high-payoff investments by a state.

Options for Transition in a State

A statewide implementation of an Opportunity Culture could follow a number of paths depending on state preferences, funding, and policy environments. The plan used in the analysis for North Carolina includes a gradual roll-out, with an initial planning year in each district and an annual conversion of 15 percent of schools in each of the five subsequent years, to eventually reach 75 percent of schools.

The challenges for statewide transition include gathering political support for change, determining which districts make the transition to new models and in what order, and funding the temporary costs of transition. Here we do not address gathering political support.

Options for determining which districts make the transition to new models and in what order include:

- Hand-picked, opt-in: State leaders or private philanthropists hand-pick opt-in pilot districts, based on district leader commitment and capacity, followed by a larger roll-out process of additional districts.
- Selective opt-in application process: A formal, structured application process, for districts that choose to apply and show some combination of district leader commitment, capacity, and compelling plans, run by the state or a private entity.
- Less-selective opt-in: State provides partial support to a large number of districts that opt in. Districts would be responsible for organizing their own change processes and obtaining significant supplemental transition funding, if needed.
- Mandate: State mandates that all districts transition to Opportunity Culture models, on a schedule determined by the state, with financial and other support from the state and private entities.

For now, most districts will need some external assistance in some or all of three areas:

- Facilitating the overall change process in a district, in collaboration with senior district leaders
- Facilitating school design teams in selecting, creating, or tailoring school models
- Aiding in district systems redesign—to build new career paths, compensation supplement schedules, budgeting rules, staffing flexibility guidelines, selection, training, and the like.

Most districts will not have funding for this transitional assistance, unless they have a prior federal or private grant *and* choose to use it for these financially sustainable models.

In the absence of prior special funding, options for funding district transitions in a state include:

- Private philanthropic funding for transition in a small number of districts; in the near future, this by itself is unlikely to result in the kind of statewide transformation modeled in this brief
- Private philanthropic funding of a first cohort, followed by public funding for additional districts
- Public transitional funding supplemented by private philanthropy spread throughout the state
- Public transitional funding supplemented by private philanthropy obtained district-by-district
- Public funding of all transition costs.

Statewide implementation should:

- Allow districts and schools time to plan for new models with significant teacher and school leader involvement
- Provide opportunities for evaluation and improvement annually
- Use natural attrition, rather than dismissal unwarranted by performance, to make the teaching workforce more selective

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Although states have many mechanisms at their disposal to encourage or enable districts to implement new models, states should expect that some portion of districts and schools may maintain their conventional structure.

As more states and districts implement, we expect transition costs to decline, because an increased number of people experienced with these transitions will become available, and design materials will be improved.

Policy Changes for Full-Scale Implementation

A full-scale implementation of Opportunity Culture models would require a state to grant flexibility to local school districts to develop new staffing structures and use funds in new ways. Detailed policy recommendations are beyond the scope of this brief, but they are broadly discussed in *Seizing Opportunity at the Top*[20] and forthcoming publications reflecting the experiences of pilot districts.

In brief, some critical policy conditions include the need to:

- Identify excellent teachers (those approximately as strong as today's top 25 percent) in all grades and high-priority subjects, using increasingly accurate performance evaluation processes. These teachers will extend their reach to more students directly or by leading teams, and they will help peers improve.
- In states that allocate funds to districts earmarked for certain positions, allow districts to swap positions at average pay rates to offer Opportunity Culture pay supplements. Otherwise, districts cannot offer teachers reach-extending pay supplements as large as those shown in this brief.
- Let teachers take responsibility for more students—by choice and for more pay—as long as highly effective teachers are responsible for each student's learning. Today's class-size laws rest on the antiquated assumption that teachers work alone, rather than in teams with on-the-job collaboration time and teacher-leadership—and with extra paraprofessional support as in other professions.
- Remove any other barriers that inhibit schools from paying excellent teachers and their teams more for reaching more students.
- Match formal accountability in the state's system to new teacher-leader and team-teacher roles, so that teachers are accountable (and get credit) for the students for whom they are responsible.

"This position allowed me to have a comparable salary to [other jobs I've been offered outside the classroom], but also stay with kids, which is where my heart is and where my passion is."

—Kristin Cubbage, multi-classroom leader at Ashley Park Elementary, Charlotte, in an interview with Charlotte's WFAE.

Conclusion

Estimates indicate the potential for a statewide transition to Opportunity Culture models to provide a brighter future for students, teachers, and the state's economy.

Figure 5. N.C. Example: Projected Impact on Students, Teachers, and Economy

Students	• *Post significant achievement gains eventually totaling an additional 3.4 years of learning per student in a K–12 career* • *Earn $100,000 to $130,000 more over their lifetimes*

Teachers	• *Reach 33% to 500% more students with excellence*
	• *Transform their profession with opportunities for:*
	  ◦ *Collaboration*
	  ◦ *Job-embedded learning*
	  ◦ *Sustainably paid career advancement*
	• *Earn $241,000 to $848,000 more over their careers*

The State	• *Generates increases in gross state product over 16 years with a net present value of $4.6 billion to $7.7 billion* • *Receives additional income tax revenues from a higher-performing workforce over 16 years, with a net present value of up to $700 million* • *Secures economic prosperity for its citizens with judicious deployment of public resources*

States desiring these benefits will pilot Opportunity Culture models and scale them up over time, to ensure that their students have access to excellent teachers, their teachers have access to the career advancement, development, and compensation opportunities they deserve, and their citizens have access to the resources required to build a prosperous economy.

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NOTES

[1] See, for example: Ripley, A. (2014. January). Poverty doesn't explain poor American school performance. *Talking Points Memo*. Retrieved from http://talkingpointsmemo.com/cafe/book-club-poverty-doesn-t-explain-poor-american-school-performance. Also see this new study indicating that even U.S. students with highly educated parents lag their comparable international peers: Hanushek, E. A., Peterson, P. E., & Woessman, L. (2014). U.S. students from educated families lag in international tests: It's not just about kids in poor neighborhoods. *Education Next.* Retrieved from http://educationnext.org/us-students-educated-families-lag-international-tests

[2] See http://OpportunityCulture.org for school models, financial and compensation analysis, career paths, and more.

[3] Hanushek, Eric A. (1992, February). The trade-off between child quantity and quality. *The Journal of Political Economy*, *100*(1), p. 84–117. Retrieved from http://hanushek.stanford.edu/sites/default/files/publications/Hanushek%201992%20JPE%20100%281%29.pdf. Stanford economist Eric Hanushek has found that teachers at the 84th percentile achieve average student gains equal to about 1.5 years worth of progress. Based on this estimate, the number of years a child needs to catch up equals the number of years behind divided by .5. Thus, 2 years behind divided by .5 equals 4 years. This formula is an approximation, and a teacher at the 75th percentile produces less progress on average than one at the 85th or 95th. Which of these teachers a child has each year will affect the actual catch-up time.

[4] Hunter, J. E., Schmidt, F. L., & Judiesch, M. K. (1990). Individual differences in output variability as a function of job complexity. *Journal of Applied Psychology, 75*, pp. 28–42.

[5] Kane, T. J., & Staiger, D. O. (2012). *Gathering feedback for teaching: Combining high-quality observations with student surveys and achievement gains.* Seattle, WA: The Bill & Melinda Gates Foundation. Retrieved from http://www.metproject.org/downloads/MET_Gathering_Feedback_Practioner_Brief.pdf

[6] These models do not shift special needs and ESL specialists back into classroom roles.

[7] The N.C. analysis compiled data from numerous sources to estimate benefits.

- **Enrollment** projections are based on current data from the North Carolina Department of Public Instruction (http://www.dpi.state.nc.us/fbs/accounting/data/) on Average Daily Membership (ADM) and population projections published by the North Carolina Office of State Budget and Management (http://www.osbm.state.nc.us/ncosbm/facts_and_figures/socioeconomic_data/population_estimates/county_projections.shtm)
- **Achievement** data are based on North Carolina's National Assessment of Educational Progress (NAEP) scores as published by the National Center for Education Statistics (http://nces.ed.gov/nationsreportcard/statecomparisons/)
- **Staffing** estimates are based on projected ADM and information on teacher allotment ratios as described in the North Carolina Department of Public Instruction's *Highlights of the North Carolina Public School Budget* (February 2013) (http://www.ncpublicschools.org/docs/fbs/resources/data/highlights/2013highlights.pdf)
- **Compensation** estimates are based on teacher salaries as reported by the National Education Association (2012) in *Rankings & Estimates: Rankings of the States 2012 and Estimates of School Statistics 2013* (http://www.nea.org/assets/img/content/NEA_Rankings_And_Estimates-2013_(2).pdf)
- **Benefits** of achievement gains for economic growth and lifetime earnings are based on the methodology developed by McKinsey & Co. (2009) in *The Economic Impact of the Achievement Gap in America's Schools* (http://silvergiving.org/system/files/achievement_gap_report.pdf), using data from the U.S. Census Bureau on Employment, Work Experience and Earnings by Age and Education in North Carolina. (http://www.census.gov/hhes/www/income/data/earnings/call1ncboth.html), the *2013–2015 North Carolina Budget Book* (http://www.osbm.state.nc.us/files/pdf_files/2013-15_BudgetBook_web.pdf) and a report provided by the North Carolina Department of Public Instruction titled: *North Carolina, Real Gross State Product—Aggregate (Chain-Weighted), IHS Global Insight September 2013 Forecast.*

[8] McKinsey & Co. (2009).*The economic impact of the achievement gap in America's schools*. McKinsey found that an increase in one standard deviation in student learning produces a gain in earnings for an individual of 11 percent to 15 percent and a gain in gross national product of 1.2 percent to 2 percent.

[9] Average North Carolina teacher salary of $45,950 is based on the 2011–12 estimate of $45,947 from National Education Association, *Rankings & estimates,* p. 19. Nationally, non-classroom specialists earn 10 percent more than regular classroom teachers. In North Carolina, the average salary for an instructional support specialist is $46,997, which we round to $47,000 in Figures 2 and 3. For details on salary for specialist positions in North Carolina, see p. 13 of *Highlights of the North Carolina public school budget (February 2013),* http://www.ncpublicschools.org/docs/fbs/resources/data/highlights/2013highlights.pdf.

Paraprofessionals nationally earn about 45 percent of average teacher pay, which would be $20,655. But we assume $22,000 because schools may want to pay more for paraprofessionals supporting reach-extending teams. For a 720-student secondary school, spending $39,000 each on four subject "pods" would be approximately $216 per student.

[10] See http://opportunityculture.org/reach/schedules/ for example schedules. Additional scheduling tools will be posted here as they are published.

[11] Over time, Opportunity Culture models require fewer teachers overall, with excellent teachers reaching more students directly and via leadership, and with good, solid teachers reaching more students directly, most often in teams. Typical attrition would allow a state to transition to new models without extra dismissals. Paraprofessionals would be hired to support teaching teams.

[12] Hanushek. (2002). The trade-off between child quantity and quality. "Excellent teacher" here means a teacher whose student growth is one standard deviation above average.

[13] We used math scores for modeling purposes, but we expect that the impact would be approximately equivalent in other subjects. To calculate how student growth accumulates over time, we estimate the additional NAEP growth attributable to excellent instruction and adjust it for the percentage of students receiving that instruction at any given point in the implementation process (only 15 percent of classrooms initially, expanding to 75 percent in five years) and accumulate it

over the years that the student spends in those classrooms. In North Carolina, the current average NAEP growth in math is 10.32 points per year. If excellent instruction increases that growth by a factor of 1.35, that is equivalent to (1.35*10.32)=13.93 points gained per year. For a cohort that starts kindergarten after Opportunity Culture models are implemented in 75 percent of classrooms, we expect that 75 percent of students would make accelerated growth (13.93 points) and 25 percent of students would make average growth (10.32 points), for an average annual achievement gain of 13.03 points (75%*13.93 + 25%*10.32=13.03). Over 13 years of their public school careers, the students in this cohort would gain about 2.71 extra NAEP points per year (13.03-10.32), for a total of 35.23 points (13*2.71)— approximately equivalent to one NAEP standard deviation (35 points), or about 3.4 years of additional growth.

[14] McKinsey. (2009). *The economic impact of the achievement gap in America's schools*.

[15] Assuming an 11 percent to 15 percent increase in annual earnings for each standard deviation increase in NAEP score (a standard deviation is 35 points). Source: McKinsey. (2009). *The economic impact of the achievement gap in America's schools.* Applied to average per capita income for North Carolina, derived from American Community Survey 2007-2011, 5-year estimate $25,256 per capita income. Retrieved November 2013 from http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_5YR_DP0.

[16] Chetty, R., Friedman, J. N., & Rockoff, J. E. (2011, December). *The long-term impacts of teachers: Teacher value-added and student outcomes in adulthood.* Retrieved from http://obs.rc.fas.harvard.edu/chetty/value_added.html; TNTP. (2012). *The irreplaceables: Understanding the real retention crisis in America's urban schools.* Brooklyn, NY: Author. Retrieved from http://tntp.org/assets/documents/TNTP_Irreplaceables_2012.pdf

[17] Estimated effect of achievement on gross national product from McKinsey & Co. (2009). *The economic impact of the achievement gap in America's schools*. North Carolina Gross State Product data from IHS Global Insight, September 2013 Forecast. To calculate net present value, we discounted the stream of GSP increases by 1.2 percent.

[18] We estimated revenue increases conservatively. We assumed per capita income would stay constant over time, yet we still discounted the stream of income tax payments to arrive at the net present value of up to $700 million over 16 years. We used the Tax Foundation's estimate of North Carolina per capita income tax payments of $1,027. Tax Foundation. *State individual income tax collections per capita, fiscal years 2007–2011.* Retrieved from http://taxfoundation.org/article/state-individual-income-tax-collections-capita-fiscal-years-2007-2011. To calculate net present value, we discounted the stream of income tax payments increases by 1.2 percent.

[19] Baum, S., Ma, J, & Payea, K. (2013). *Education pays 2013: The benefits of higher education for individuals and society.* New York: The College Board. Retrieved from https://trends.collegeboard.org/sites/default/files/education-pays-2013-full-report.pdf

[20] Hassel, B. C., & Hassel, E. A. (2011). *Seizing opportunity at the top: How the U.S. can reach every student with an excellent teacher* (Working paper). Chapel Hill, NC: Public Impact. Retrieved from http://opportunityculture.org/seizing_opportunity_fullreport-public_impact.pdf