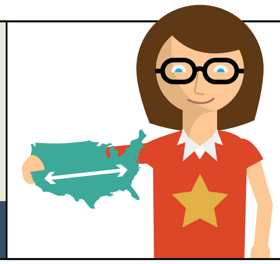
REDESIGNING SCHOOLS

TO REACH EVERY STUDENT WITH EXCELLENT TEACHERS

FINANCIAL PLANNING FOR TIME-TECHNOLOGY SWAP—ROTATION MODEL



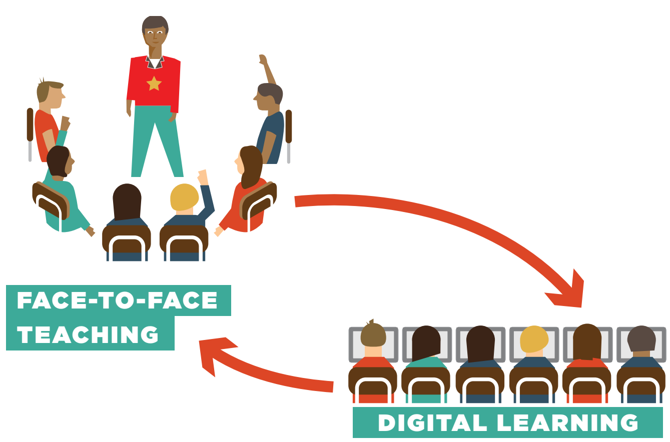
SUMMARY

This brief shows how teachers in a Time-Technology swap school model may earn more, sustainably. In this model, schools use age-appropriate portions of digital learning (as little as about an hour daily per student) to free the time of excellent teachers to teach more students and potentially to collaborate with peers. By teaching more students, teachers may earn more from existing per-pupil funding. Calculations of savings and costs from this model show how schools could increase teacher pay up to 41%, *without increasing class sizes and within existing budgets*. In some variations, schools may pay *all* teachers more, within budget. Combining this model with other models to extend the reach of excellent teachers and promote excellence by all instructional staff may produce even greater savings to fund teacher pay increases and other priorities, while producing excellent student outcomes.

This brief summarizes the expected savings and costs associated with a Time-Technology Swap. This is one way that schools and their teachers can simultaneously reach more students with excellent teaching, expand teachers' career opportunities, and sustainably fund higher pay and other priorities.

TIME-TECHNOLOGY SWAP

Students spend part of the day engaged in self-paced digital learning. Digital instruction replaces enough of top teachers' time that they can teach more students, using face-to-face teaching time for higher-order learning and personalized follow-up. Teachers can use part of their freed time for planning and collaboration.



The brief focuses on one variant of the Time-Technology Swaps called **Rotation**. In this model, students rotate on a fixed schedule between digital instruction and face-to-face learning with the teacher. Teachers can teach a larger number of students without increasing class size because at a given time, some of their students are learning in a digital lab with paraprofessional supervision.

Rotation is among more than 20 school models published by Public Impact that use job redesign and technology to extend the reach of excellent teachers to more students, for more pay, within budget. Most of these models create new roles and collaborative teams, enabling all teachers and staff to develop and contribute to excellence.

We call this an "Opportunity Culture." In an Opportunity Culture, all teachers have career opportunities dependent upon their excellence, leadership, and student impact. Advancement allows more pay and greater reach. Development toward excellence is possible for all staff, in every role.

When teachers reach more students, additional per-pupil funds become available to support those teachers' work. This additional funding, minus new costs, can be used for higher pay and other priorities, according to the values, needs, and priorities of each school.

In this brief, we summarize how Rotation can **generate savings that schools can use for higher pay and other priorities**. We show **scenarios** that illustrate the estimated savings possible under different approaches to this model, the estimated costs to support extended reach of excellent teachers, and the estimated range of pay increases for teachers.

Although we do not show examples here, this model can be combined with other reach models, such as Multi-Classroom Leadership and Elementary Subject Specialization. Schools can use combinations to increase reach as well as planning and collaboration time for teachers. In some cases, especially by combining reach

models, schools can pay *all* teachers more within budget, while developing instructional excellence schoolwide.

Extending the reach of excellence requires excellent results. Schools should implement models in ways that allow teachers to reach more students without lowering student outcomes below the excellence bar. School leaders who choose models wisely—to reach students with teachers who are most consistently excellent in a particular subject or role, and with the support each teacher needs—may find that improved student outcomes lead to increased public support for additional school funding.

For more information, see OpportunityCulture.org, which provides a financial summary showing how to calculate net savings in different models for extending the reach of excellent teachers, **school model summaries, detailed models, teacher career paths,** and more **tools.** See the table at the end of this brief for an overview of savings and costs in multiple reach models.

THE TIME-TECHNOLOGY SWAP–ROTATION MODEL EXPLAINED

In this model, students spend some of their in-school time engaged in personalized digital learning, replacing a portion of excellent, in-person teachers' whole-group and lecture instruction chosen by the teachers. Students rotate on a fixed schedule between digital instruction and face-to-face learning with the teacher. Combining digital and face-to-face instruction in this way is known as "blended learning." We call teachers using this approach to extend their reach "blended-learning teachers."

To extend their reach, excellent teachers use freed time to teach additional classes, focusing primarily on personalized and enriched portions of instruction. During digital learning time, lab monitors supervise students, and tutors may work with students individually and in small groups. Teachers, monitors, and others collaborate as a team.

Reach Effects: Excellent elementary teachers reach approximately 25%–100% more students, varying with the percentage of digital instruction time. Excellent secondary teachers reach up to 100% more students. Secondary teachers may extend their reach in any number of class periods, ranging from just one class to all of their classes, with limits based on the feasible student load and the percentage of students' digital time.

Note: Rotation can work without students moving to a digital lab. Instead, students can rotate between "stations" within a classroom, including a station in which they engage in digital learning. Here, however, we focus on the financial implications of lab rotations.

For more detail about this model, see: http://opportunityculture.org/reach/time-tech-swaps-rotation.

HOW THIS MODEL CAN GENERATE SAVINGS FOR HIGHER PAY AND OTHER PRIORITIES

Using Rotation schoolwide presents several alternatives. First, a school could pay *all* participating teachers equally more, within current budgets. Second, it could pay all participating teachers somewhat more and its most effective teachers even higher salaries, again within budget. Third, a school could reserve its pay supplements only for participating teachers who achieve a threshold level of excellence with students with some consistency (e.g., 2 out of 3 years).

Higher pay is possible because of potential savings that are only partially reduced by potential costs. In practice, the net savings available to pay teachers more and fund other priorities will differ by local wage differentials between teachers and other school staff, and the specific decisions that school design teams make about how the model will work. See the scenarios below for some starting options.

In addition to making specific decisions about how the model will work, design teams of teachers and leaders will have to make choices about the speed of transition, based on the urgency of student learning needs, school values, and financial realities. Faster implementation in an existing school can free funds more quickly, but may increase transitional costs, described below.

The ways that Rotation can produce financial savings or increase funding include:

* **Allowing teachers who are the most consistently excellent to reach more students with whom they are likely to continue achieving excellent outcomes.** This is the fundamental way that funding from existing per-pupil streams is freed. For example, consider a school with 96 third-graders taught by four teachers in four 24-student classrooms. Using Rotation, three teachers (instead of four) could teach the core subjects to these 96 students. Since 24 students could be in the digital lab at any time using personalized digital learning programs,

"class sizes" for the three teachers would remain at 24. Although a digital lab monitor supervises students in the digital lab, monitors could earn paraprofessional-level pay, producing a net savings.

* **Shifting non-classroom instructional specialists back into classrooms.** When excellent teachers reach more students successfully, fewer students may need specialists who supplement in-class differentiation and remediation. In schools where specialists are chosen for their teaching prowess, those non-classroom specialists could return to classroom roles, extending their reach via rotation. This saves funds by avoiding an additional hire when an excellent teacher working outside the classroom as a specialist is already available in the school and can move into a direct teaching role.

Ongoing costs when implementing Rotation may be incurred by:

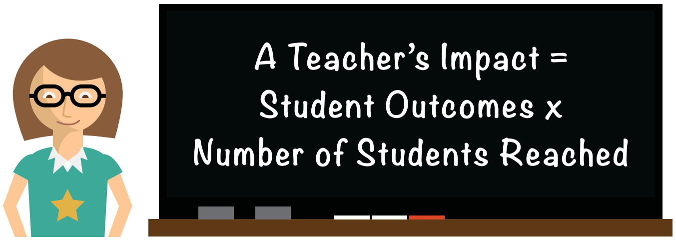
* **Adding paraprofessional roles to support reach.** Schools may need to hire monitors to oversee students learning in the digital lab. This role does not require the high levels of combined academic, planning, and classroom management skills that full teachers need, and thus the pay for these positions is lower. However, people in these positions could have shorter workweeks of approximately 40 hours (in contrast, traditional teachers report working over 50 hours weekly on average).
* **Increasing technology costs.** While most schools already spend money on technology, these costs would likely rise if students began spending significantly more time in digital learning. A school would face some start-up costs, discussed below. A school also could have increased ongoing expenses in two categories.[1] First, schools might need to buy licenses for digital learning content and for a management system to enable students and teachers to use the content easily. While some free content exists, other applications carry monthly or annual licensing charges. Second, schools would likely face ongoing technology costs for expanded broadband Internet access, equipment maintenance and replacement, and other expenses. See the scenarios below for more discussion.

While this brief focuses on *ongoing* costs, transitional costs incurred when implementing Rotation may include:

* **Initial hardware and facilities costs.** Schools using this model may need to invest initially in new computers, wiring, Internet access equipment, furniture, and other hardware. In addition, changes may be required to the school's facility; for example, to create space for a digital lab that holds 50 to 100 students. These costs will vary widely by school depending on what hardware and facility configuration already exists. (New schools may actually *save* facilities funds by building fewer internal walls.)
* **Obtaining design assistance.** Some schools and districts may need design and facilitation assistance to choose and tailor reach models. This temporary cost may be funded by allocating reach-model savings over a number of years or by obtaining special, temporary grants. See http://opportunityculture.org/reach/ for links to detailed school models and implementation tools that may help reduce or eliminate this cost in some locations.
* **Transitioning pay discrepancies.** Schools may choose to transition to this model as excellent teachers become available (through new hiring or the development of solid teachers) and as natural attrition of the least effective teachers occurs. But other schools may choose to make faster transitions in which current teachers change roles immediately. With Rotation, this might mean having all teachers who are at least solid or average take on more students. This would eliminate the need for ineffective teachers to be responsible for most instruction—they could be reassigned as digital lab monitors, transferred to other noninstructional positions within a district, or, where warranted, dismissed. Tenured and contract-protected teachers who remain in schools but do not continue in full teaching roles may need to be paid above the going rate of their new positions. Although this cost is transitional and temporary, it may be the most significant cost of reach extension for some schools. When financially viable, with public or private philanthropic funding, bearing this cost will make reach fairer and more palatable to those who entered the profession with different expectations. A slower transition to reach models within each school can avoid this cost, but may reduce the benefit to current students.

Finally, **benefits costs may increase or decrease the savings—and teacher pay boosts—projected here**, both in absolute terms and as a percentage of wages and salaries. We do not model benefits here, as the permutations in different schools are too numerous for this summary. School and district financial officers will need to be mindful of benefits when calculating and reallocating the savings. Reallocating savings to pay increases for teachers whose reach is extended and to new spending on other priorities may have different effects on benefits costs. For example: Paraprofessional benefits during employment may be a higher percentage of wages than benefits for professionals, reducing savings somewhat. Alternatively, reducing the number of positions, such as non-classroom specialist reductions when reaching more students

1. For more discussion of these costs, see Battaglino, T. B., Haldeman, M., & Laurans, E. (2012). The cost of online learning. In Chester E. Finn, Jr., & Daniela Fairchild (Eds.), *Education reform in the digital era*. Washington, DC: The Fordham Institute (pp. 45–76).



with highly effective classroom teachers, will in most cases further add to savings—increasing funds to pay classroom teachers more.

SCENARIOS OF ROTATION

In the discussion and tables at the end of this brief, we show different scenarios for the use of Rotation. These scenarios illustrate different ways schools could use the model, and the net cost savings possible in each approach. For each scenario, we express the "bottom line" as the maximum potential pay supplement a school using this model could pay the teachers whose reach is being extended. Schools may choose to use some of the savings for other purposes as well.

HOW SCHOOLS CAN USE SAVINGS

This model frees funds, and can free teachers' time, too. School design teams composed of teachers and school or district leaders must choose how to reinvest that money and time.

In addition to paying great teachers more for reaching more students, schools can use freed funds and time for nearly any school priority that requires time and money.

Schools and districts could also:

* **Increase leadership by funding excellent teachers' time:**
  - To develop, lead, train, and evaluate other teachers and staff
  - To develop rubrics and routines that allow developing teachers and staff to take on more of the excellent teachers' duties while maintaining excellent student outcomes for all students
  - To help school leaders determine the best **career paths** for developing teachers
* **Increase development and collaboration of all teachers by funding time:**
  - To collaborate with teammates
  - To develop skills needed for excellence in every role and for career advancement
* **Increase learning personalization and enrichment by funding time and talent:**
  - To add instructional time to students' days or school year
  - To reduce instructional group sizes
  - To provide more small-group and individual instruction, by teachers or tutors
  - To spend more time on enriched instruction and higher-order thinking skills
  - To increase the planning time needed to handle a greater student load

The benefits of reach extension to teachers are not all financial. If combined with Elementary Specialization, for example, this model could allow schools to increase **job flexibility and provide part-time work** to blended-learning specialist teachers who teach fewer than the possible additional number of classes on a part-time schedule. For example, a language arts/social studies specialist could teach one class in these subjects in the mornings and then leave the school at midday; a peer might teach another class and work only in the afternoons. Together these two teachers produce the work of one specialist, but each is able to work reduced hours, by choice. The digital learning time could provide time for collaboration with the person sharing the position (and other teachers). This may help schools retain some excellent, experienced teachers who would otherwise exit the profession during various stages of their careers. (See more on OpportunityCulture.org at http://opportunityculture.org/teachers-time/.)

Of course, for many teachers, the chances to pursue teaching excellence, impact more students, and help peers succeed are the best benefits of this model and of building an Opportunity Culture within schools.

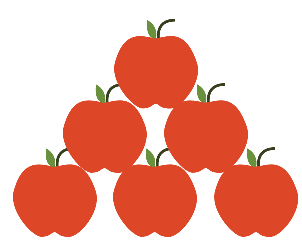
Visit OpportunityCulture.org for more information on Rotation, other Time-Technology Swaps, other reach models, and their implications for students, teachers, and schools.

OTHER RESOURCES

Additional resources for reallocating spending to support better student learning include the following:

Education Resource Strategies (ERS) is a nonprofit organization dedicated to helping urban school systems organize talent, time, and money to create great schools at scale. Learn more about how to reallocate resources to support strategic school designs that extend teacher reach on their website: http://erstrategies.org/focus/transformation.

The Center on Reinventing Public Education has published numerous reports about public school spending and has a web page devoted to finance, spending and productivity: http://www.crpe.org/finance-and-productivity.



THE REACH EXTENSION PRINCIPLES

1. **Reach more children successfully** with excellent teachers.
2. **Pay excellent teachers more** for reaching more children successfully.
3. **Achieve permanent financial sustainability,** keeping post-transition costs within the budgets available from regular per-pupil funding sources.
4. **Include roles for other educators** that enable solid performers both to learn from excellent peers and to contribute to excellent outcomes for children.
5. **Identify the adult who is accountable for each student's outcomes,** and clarify what people, technology, and other resources (s)he is empowered to choose and manage.

SCENARIOS

In this section, we show calculations of the net savings under several versions of Rotation. We use elementary school examples for illustration, but middle and high schools could use this model and achieve comparable or larger savings. The scenarios vary by:

* **The percentage of time students spend learning digitally:**
  - **25%, enabling 3 teachers (instead of 4) to teach 96 students** but still in groups of 24.
  - **33%, enabling 2 teachers (instead of 3) to teach 72 students** but still in groups of 24.

  Note: These percentages are the proportion of core-subject time students would spend learning digitally, not the proportion of overall time. If an elementary student had 22 hours of core instruction per week and spent 25% of that learning digitally, she would spend 5.5 hours per week in the lab—just over one hour per day. At 33%, that would be less than 1.5 hours per day.

  Digital Lab Monitors: When students are not with their teachers during core subjects, they are in a digital lab supervised by a digital lab monitor. All of these scenarios assume that three typical classrooms of students—72 in total—could be in a digital lab at one time. If schools chose to have more or fewer students in digital labs at a time, they would see larger or smaller levels of savings. To achieve the full level of savings shown in the scenarios, enough students would have to be learning digitally to fill up a 72-student digital lab. Some schools may be able to focus volunteer time to provide tutoring, digital assistance, and general supervision during digital lab time, effectively reducing the student-to-adult lab ratio.

* **Technology costs:** Because digital learning is such a new and evolving field, and schools have so many choices about content and equipment, projecting the ongoing costs of Rotation is difficult. According to Battaglino et al.'s estimate, schools currently spend about $300 per student per year on a combination of content and other technology costs.[2] Here, we project that cost to double to $600 in the scenarios where students spend 25% of core time in digital learning, and to increase somewhat more to $750 when students spend 33% of their core time digitally. These estimates are within the range projected by Battaglino et al., which also contains much more detailed discussion of content and technology costs for schools using models like this.

* **How many non-classroom specialists can be shifted into direct teaching roles without hiring replacements:**
  - **Low** (only one-third of a full-time equivalent position [FTE] serves every 4 classrooms and can be reassigned; for example, a K–5 school with two non-classroom specialists).
  - **High** (two-thirds of an FTE serves every 4 classrooms and can be reassigned; for example, a K–5 school with four non-classroom specialists).

Schools with even more FTEs of non-classroom specialists could potentially generate even higher levels of savings. Schools do not necessarily need to shift non-classroom specialists to use this model and should do so only when the selectivity of teachers extending reach through rotation makes doing so unlikely to reduce student learning outcomes. Shifting non-classroom specialists back into classrooms enables a higher level of savings and thus higher pay for all blended-learning teachers.

Schools will best realize savings when implementing this model in many or all core-subject classrooms in an elementary school. Doing so will make it possible to shift all of each non-classroom specialist's time into classroom teaching. More limited implementation will mean non-classroom specialists must continue serving in their supplementary instructional roles.

Note: By non-classroom specialists, we mean individuals who coach teachers and/or teach non-special population students in core subjects, such as literacy specialists/facilitators; math specialists/facilitators; and remedial or gifted specialists. We are not referring to teachers of special education or English language learners, who we assume would continue to play their current roles in these models.

2. Estimated from Battaglino et al., The cost of online learning, p. 61.

For each scenario, we show the assumptions, the costs before and after the scenario, and the savings made possible by the scenario. We express these savings in various ways, but the "bottom lines" in the charts show how much more the specializing teachers could earn if the school (a) applied 100% of the savings to that purpose; and (b) divided the savings equally among all the participating teachers. Of course, schools may choose to divide savings between teacher pay increases and other valued spending, so these figures just show the maximum *possible* pay boost for blended-learning teachers in these scenarios. In addition, schools may choose to pay some blended-learning teachers more; for example, to pay teachers who demonstrate excellent results at a higher rate.

Schools using these scenarios will need to modify them to fit their own circumstances. For example, the scenarios contain assumptions based on national averages about the ratio of paraprofessional pay to teacher pay (0.45, meaning that the average paraprofessional pay is 45 percent of average teacher pay); the ratio of non-classroom specialist pay to teacher pay (1.11); average teacher salary ($55,000); technology costs (discussed above) and other elements. If a school's own ratios and averages differ significantly from these, potential savings (and thus pay increases) from these scenarios will be higher or lower than shown here.

Scenario Set A: Low Numbers of Non-Classroom Specialists

In the two scenarios in Set A, only 0.33 FTEs of non-classroom specialists serve every 4 classrooms prior to the scenario (for example, a K–5 school with two specialists would have 0.33 non-classroom specialists per grade level.) These non-classroom specialists shift their roles in the scenario and are no longer assigned to this set of classrooms. For example, they may become blended-learning classroom teachers extending their reach via Rotation. An average-size elementary school would save **$191,000–$196,000** if it used these models schoolwide. If all of these savings went to pay participating classroom teachers more, **participating teachers' pay could increase 23% to 27%.**

The two scenarios show how other design decisions would affect a school's savings and the potential to pay participating teachers more:

- *Scenario 1:* Students spend 25% of their core instruction time in digital learning—about 1 hour per day. A total of 96 students—who formerly needed 4 teachers to cover their classes—are now taught by 3 teachers. Teachers meet with students in class sizes no bigger than previously—24—because at any time 24 students are in the digital lab. The digital lab monitor earns paraprofessional pay rates that are less than the average classroom teacher, generating savings. Combined with the shift of 0.33 FTEs of non-classroom specialist time, the model makes a maximum **23% average pay boost possible for the participating teachers** above the average teacher salary.
- *Scenario 2:* Students spend 33% of their core instruction time in digital learning—about 1.5 hours per day. A total of 72 students—who formerly needed 3 teachers to cover their classes—are now taught by 2 teachers. Teachers meet with students in class sizes no bigger than previously—24—because at any time 24 students are in the digital lab. The digital lab monitor earns paraprofessional pay rates that are less than the average classroom teacher, generating savings. Combined with the shift of 0.33 FTEs of non-classroom specialist time, the model makes a maximum **27% average pay boost possible for the participating teachers** above the average teacher salary.

Scenario Set B: Higher Numbers of Non-Classroom Specialists

In the scenarios in Set B, 0.67 FTEs of non-classroom specialists serve every 4 classrooms prior to the scenario (for example, a K–5 school with four specialists would have 0.67 non-classroom specialists per grade level.) These non-classroom specialists shift their roles in the scenario and are no longer assigned to this set of classrooms. For example, they may become blended-learning classroom teachers themselves. An average-size elementary school would save **$293,000–$297,000** if it used these models schoolwide. If all of these savings went to pay participating teachers more, their **pay could rise 36%** over average teacher salaries with 25% of core time in digital learning (Scenario 3). **Pay could rise 41%** over average teacher salaries with 33% of core time in digital learning (Scenario 4). These numbers are higher than in Set A because the school was using higher numbers of non-classroom specialists prior to implementing this model, and therefore can generate more savings by shifting non-classroom specialists back into classrooms.

Set B's Scenarios 3 and 4 are otherwise the same as Set A's Scenarios 1 and 2.

Other Possibilities

These scenarios are designed to show some of the possibilities for using Rotation to pay classroom subject specialists more and meet other school needs. Schools could vary these scenarios' parameters in many ways based on their own values, staffing needs, and constraints. We welcome teachers and schools to share their own scenarios with us here: http://opportunityculture.org/our-initiative/feedback.

Note: The scenarios shown here do not include transitional or start-up costs. These costs will vary depending on the speed of transition, the need for outside assistance during design and implementation, and the school's current state of technology. Temporary costs may be funded by allocating reach-model savings over a number of years (so that teachers may be paid more immediately for their new reach roles) or by obtaining special, temporary grants as discussed above.

Data Sources

Average salaries for teachers, paraprofessionals, and non-classroom specialists are based on authors' tabulations of data from Bureau of Labor Statistics, *Occupational Employment and Wages, May 2011,* retrieved from http://www.bls.gov/oes/2011/may/oes_nat.htm. Average teacher salary is the national mean salary for the following types of teachers: kindergarten, elementary, middle school, secondary school, elementary special education, middle special education, and secondary special education. Extrapolation of savings to the school level is based on an elementary school with 20 classes of 24 students each, to align with the assumption in these scenarios of 24 students per class. This implies a total enrollment of 480, approximately equal to the national average size of regular elementary schools—478—in 2009–10, as reported in National Center for Education Statistics, *Digest of Education Statistics,* Table 104 (Washington, DC: NCES, 2011), retrieved from http://nces.ed.gov/programs/digest/d11/tables/dt11_104.asp.

Scenario Set A: Low Numbers of Non-Classroom Specialists

In the scenarios displayed below, 0.33 FTEs of non-classroom specialists serve every 4 classrooms ("clusters") prior to the scenario (for example, a K–5 school with two specialists would have 0.33 specialists per grade level.) *Note: Calculations may not be exact due to rounding.*

	SCENARIO 1	SCENARIO 2
	1/4 Digital Time. 3 teachers cover 4 classes.	**1/3 Digital Time.** 2 teachers cover 3 classes.
PARAMETERS		
Number of students in the cluster	96	72
Number of teachers in the cluster with rotation	3	2
Percentage of core time students spend in digital lab	25%	33%
Number of new digital lab monitors	0.33	0.33
Ratio: Lab monitor pay to average teacher pay	0.45	0.45
Ratio: Non-classroom specialist pay to average teacher pay	1.11	1.11
COSTS: BEFORE TIME-TECHNOLOGY SWAP—ROTATION		
Teacher salaries	$220,000	$165,000
Salaries of non-classroom specialists per cluster	$20,370	$15,125
Technology costs	$28,800	$21,600
Total costs—BEFORE	**$269,170**	**$201,725**
COSTS: AFTER TIME-TECHNOLOGY SWAP—ROTATION		
Teacher salaries, before any supplement	$165,000	$110,000
New digital lab monitor salaries (1/3 of total salary)	$8,185	$8,185
Technology costs (estimated)	$57,600	$54,000
Total costs—AFTER	**$230,785**	**$172,185**
SAVINGS		
Overall savings from the model	$38,386	$29,540
Savings per classroom	$9,596	$9,847
Savings per pupil	$400	$410
School savings if whole school used model*	$191,929	$196,937
PARTICIPATING TEACHER PAY POTENTIAL	*Maximum supplement a school could pay, if it (a) put 100% of savings into this and (b) divided it equally among participants.***	
Maximum supplement, in dollars	**$12,795**	**$14,770**
Maximum supplement, as % of average teacher pay	**23%**	**27%**

* Assumes 20 classrooms of 24 students. See Data Sources section above for more on this and other parameters.
** Alternately, a school could opt to pay some teachers more, e.g., higher pay for demonstrated excellent teachers.

Scenario Set B: Higher Numbers of Non-Classroom Specialists

In the scenarios displayed below, 0.67 FTEs of non-classroom specialists serve every 4 classrooms ("clusters") prior to the scenario (for example, a K–5 school with four specialists would have 0.67 specialists per grade level.) Parameters are otherwise similar to Scenarios 1 and 2. *Note: Calculations may not be exact due to rounding.*

	SCENARIO 3	SCENARIO 4
	1/4 Digital Time. **3** teachers cover 4 classes.	**1/3 Digital Time.** **2** teachers cover 3 classes.
PARAMETERS		
Number of students in the cluster	96	72
Number of teachers in the cluster with rotation	3	2
Percentage of core time students spend in digital lab	25%	33%
Number of new digital lab monitors	0.33	0.33
Ratio: Lab monitor pay to average teacher pay	0.45	0.45
Ratio: Non-classroom specialist pay to average teacher pay	1.11	1.11
COSTS: BEFORE TIME-TECHNOLOGY SWAP—ROTATION		
Teacher salaries	$220,000	$165,000
Salaries of non-classroom specialists per cluster	$40,741	$30,250
Technology costs	$28,800	$21,600
Total costs—BEFORE	**$289,541**	**$216,850**
COSTS: AFTER TIME-TECHNOLOGY SWAP—ROTATION		
Teacher salaries, before any supplement	$165,000	$110,000
New digital lab monitor salaries (1/3 of total salary)	$8,185	$8,185
Technology costs (estimated)	$57,600	$54,000
Total costs—AFTER	**$230,785**	**$172,185**
SAVINGS		
Overall savings from the model	$58,756	$44,665
Savings per classroom	$14,689	$14,888
Savings per pupil	$612	$620
School savings if whole school used model*	$293,781	$297,770
PARTICIPATING TEACHER PAY POTENTIAL	*Maximum supplement a school could pay, if it (a) put 100% of savings into this and (b) divided it equally among participants.***	
Maximum supplement, in dollars	**$19,585**	**$22,333**
Maximum supplement, as % of average teacher pay	**36%**	**41%**

* Assumes 20 classrooms of 24 students. See Data Sources section above for more on this and other parameters.
** Alternately, a school could opt to pay some teachers more, e.g., higher pay for demonstrated excellent teachers.

Savings and Costs of Reaching More Students With Excellent Teachers

Ways to Extend Reach →	Class-Size Changes	Elementary Subject Specialization	Multi-Classroom Leadership	Time-Technology Swaps	Remote Teaching with Time-Tech Swap
FUNDING/SAVINGS FROM REACH ↓					
Reach more students to free per-pupil funds	✓	✓	✓	✓	✓
Swap teacher time for digital time				✓	✓
Pay less for lighter-workload teaching roles	✓		✓		
Increase some class sizes (by choice, within reason)	✓				
Shift specialists into classrooms	✓	✓	✓	✓	✓
Reduce new construction costs				✓	✓
COSTS OF REACH ↓					
Add support paraprofessionals	*	✓	✓	✓	✓
Purchase technology				✓	✓
Make facilities/furniture changes				✓	✓
Transitioning pay discrepancies**					

*Class-size changes do not require any additional costs. Schools, however, could choose to support teachers who take on particularly large classes by providing additional paraprofessional support.

**This cost depends on a school's speed and method of transition, not the reach model.

For a discussion of pay and savings in multiple reach models, see the *Financial Planning Summary*.

This publication was made possible by support from the Bill & Melinda Gates Foundation. The underlying school model was made possible in part by support from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of Public Impact. Learn more at OpportunityCulture.org.

BUILDING AN OPPORTUNITY CULTURE FOR AMERICA'S TEACHERS

PUBLIC IMPACT