

EDUCATION MATTERS

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Shortchanged: The Cost of Great Teaching

Great teaching is priceless. After all, you can't put a figure on the value of sparking a child's love of reading, or making a whole room of students feel safe taking risks—and we all know nobody goes into teaching to get rich. But teaching is a profession, after all—one of our most important—and the truth is that the way we currently pay teachers in this country doesn't even come close to the true value of great teaching.

By Amanda Kocon





We're putting a stake in the ground on teacher pay. In our new paper, *Shortchanged: The Hidden Costs of Lockstep Teacher Pay*, we argue that the standard mode of compensating teachers—based on years of experience and advanced degrees—is shortchanging our best educators, hurting our students, and degrading the teaching profession. Lockstep pay simply doesn't build the profession we want. Consider just a few of the consequences:

It makes it hard to recruit top talent.

Starting salaries for teachers are around 25 percent less than those for professionals in fields like marketing, nursing, or accounting, and it can take decades for teachers to reach the top of the salary scale. How many outstanding young people do you know who wouldn't even think about teaching as a career because they are turned off by the pay?

It pushes great teachers out of the classroom—and encourages ineffective teachers to stay.

No matter how much great teachers excel at their jobs, they are never recognized with anything more than the same small raise that every other teacher receives—even those who put forth far less effort and whose students demonstrate far less impressive results. What teacher hasn't felt deflation and frustration upon realizing that within the same building, salaries for teaching positions vary widely... and some of the weakest practitioners often take home the largest checks, merely because they've been taking them home for the longest time?

It discourages high performers from teaching in the schools that need them most.

Great teachers should be encouraged—and rewarded—for teaching in high-poverty schools, but most compensation systems treat every teaching assignment the same. Who hasn't had a conversation with a colleague who is thinking about transferring to a school perceived as having fewer challenges? And how many of those colleagues would consider sticking with their current school if they were truly compensated for the complexity of their work?

Not only that but lockstep teacher pay costs districts dearly. You might be surprised to learn, as we were, that school districts across the country spend an estimated \$250 million on raises for their *least* effective teachers—and that's a conservative estimate. Lockstep pay actually rewards low performers for staying. That's just the beginning. We estimate that districts also spend \$8.5 billion a year on pay bumps for master's degrees alone—even though advanced degrees have been shown to have little to no impact on teachers effectiveness with students.

But aren't years of service and advanced degrees the only "fair" criteria on which to base teacher salaries? Teaching is a complex field, after all.

We think that precisely *because* teaching is so complex, it's imperative that we find a way to pay teachers for what really matters: how hard their jobs are, and how well they do them. In fact, we think that while lockstep teacher pay is undeniably preferable to some teachers who gain substantial benefits from it, it is fundamentally *unfair* to great teachers and to students.

It's time to build smarter compensation systems that pay great teachers what they're really worth, by focusing on higher starting salaries, pay bumps for strong class-

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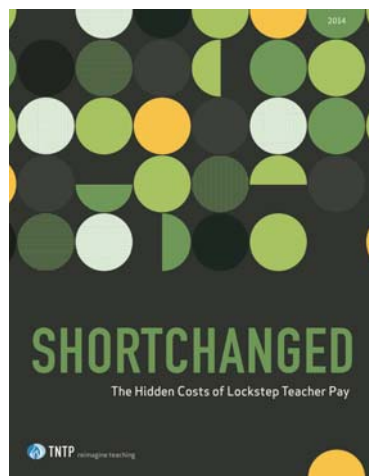
room performance, and incentives for great teachers in high-need schools. As a nation, we say we believe in the value of great teaching, but sadly, today’s pay system says we think teachers are widgets and excellence doesn’t matter. It’s time to put our money where our mouths are.

It can be done. Districts like Newark Public Schools and District of Columbia Public Schools are using performance-based compensation systems to attract great teachers and then treat them with the respect they’re due, as highly skilled professionals worthy of competitive compensation. They’re seeing promising results—in D.C., dissatisfaction with compensation has become one of the least common reasons highly effective teachers cite for leaving the district.

Other places, like Achievement First charter network, are linking compensation with roles and responsibilities for teachers based on their effectiveness with students. And in Louisiana, Indiana, Tennessee, and Florida, state laws are pushing local districts to find their own ways to link performance and teacher pay. Together, these school systems offer a roadmap for how to pay great teachers for the incredible value they bring.

That’s our two cents, so to speak. We aren’t saying we have it all figured out. We don’t believe compensation should be entirely based on bonuses or be unstable from year to year. But we think lockstep pay is a mess, and the case for change is increasingly hard to ignore.

What do you think is the best way to approach teacher pay? Read the paper at TNTP.org and send feedback to editor@aaeteachers.org. ■



Amanda Kocon is Vice President, Emerging Services at TNTP.

Charter School Spotlight: Bruce-Guadalupe Community School

Located just off of the interstate in the south side of Milwaukee, Wisconsin, Bruce-Guadalupe Community School (BGCS) is a well-known public charter school known statewide as the “Charter School of the Year” in 2010. With a current enrollment of 1,088 K-8th grade students, BGCS is undergoing big summer renovations to accommodate the anticipated growth of 1,150 students for the current school year. It is evident from the moment a person enters BGCS that it is a unique school that strives to make real connections and real differences in the community.

Bruce-Guadalupe’s goals are to instill in every student the

3As: Attitude, Attendance, and Achievement

3Rs: Respect, Responsibility, and Resilience

3Ps: Projects, Performances, and Progress

Academics

BGCS’s population consists of 80 percent free and reduced lunch students, with the majority of the population coming from families where English is the second language. Not only do students learn reading and writing using the English language, every student is required to take Spanish to ensure that proper grammar and writing techniques are used at all times. BGCS sets students on a successful track by focusing on college readiness and opportunity networking. For example, this was evident in the K-8 science courses where student class time is structured like a college course, where students spend part of their time in lecture and then move to a formal



lab. ACT prep is open to all students in the community, even if they do not attend BGCS. Once students leave BGCS, they are tracked into high school to follow through and support for success.

While academics are a big part of BGCS, students are encouraged to take advantage of the vast opportunities in art and music. While touring BGCS, young scholars were making their way through the hallways wearing uniforms and toting their musical instruments. Beautiful artwork is displayed throughout the school to celebrate



the various projects students worked on with their art teacher. In fact, the hallway outside the art room is built to resemble an art museum. With specific lighting and recessed areas to display art, students have their masterpieces properly displayed for others to enjoy.

BGCS uses art to make interdisciplinary connections through a program called ALMA. ALMA, which is Spanish for “soul,” allows for collaboration between classroom teachers and art teachers designing units of study to connect between reading, math, and art.

Scheduling

When traditional schools are gearing up for summer vacation, BGCS students are entering their 5th quarter. This is a unique opportunity for students to receive interventions in reading, writing science, and math. The Summer Recreation Program also allows opportunities for hands-on experiences

through science projects, various sporting activities, and a variety of field trips. When the day is through and when school is not in session, students can use the community learning center attached to BGCS.

Community

What sets BGCS apart from a traditional school is the approach to educating the whole child. The old adage says “It takes a village to raise a child,” but the BG Community Learning Center really puts this concept to practice. The United Community Center (UCC) is open to all of the community, even when school is not in session. The United Community Center hires past graduates of BGCS to work with and mentor area students. Equipped with a beautiful fitness center, the United Community Center is a place where children can seek homework assistance, make crafts, or just have a safe place to hang out with friends.

Right on the BGCS campus is the El Centro de Salud Health Care Center, which originally provided services exclusively to BGCS students. However, these services have now expanded to other participants in UCC. In partnership with Columbia College of Nursing, all students of BGCS are provided free health screenings, vaccinations, and vision and hearing tests. A nurse is available throughout the school day who helps ensure students are staying healthy to prevent them from missing class. With reduced absences in school, students have increased academic performance. Also Harley Davidson Motor Company partnered with El Centro de Salud Health Care Center to provide a dental hygienist for preventative care for student. ■



By Trevor Shaw

How does 3D printing impact classroom practices and student learning?

Two years ago, I was telling a friend about 3D printing, and she thought I was teasing her. After watching several YouTube videos and reading a few articles, she reluctantly acknowledged its existence with a skeptical look.

“Oh yeah, sure. I can design something on a computer and this machine will fabricate it out of plastic in a few minutes. Ahoy, Captain Picard. Next you’ll believe me if I tell you that they can print houses out of plywood or human kidneys out of stem cells. Pfff.”

It amazes me that in the short time since my friend thought I was pulling her leg, 3D printers have become standard technology in most schools.

Apparently the nexus of low cost, simplicity of software, and the street cred that comes along with owning something this cool has made it hard for even the most cash-strapped schools to resist taking the plunge.

But after the wow-factor has worn off, and schools have burned through kilos of Polylactic Acid to find themselves inundated with plastic chains, nuts, bolts, and shark-shaped chip bag clips, one might reasonably ask the question: “What are we learning here?”

There has to be more involved, educationally, than kids learning how to level the build plate and press the print button.

This question became a major concern for me this spring when I agreed to teach a week-long summer school course on 3D printing. Having no real experience with 3D printing, I had a lot of homework to do. I figured that the process must be fairly complex if we were offering an entire course on it.

From what I can tell so far, I was wrong.

Apparently, there isn’t much to 3D printing beyond the basic mechanics of operating the machine. At least this is the case when it comes to my classroom needs.

Like with 2D printers, the mechanics of turning bits of data into something tangible is relatively trivial.

But there is nothing trivial about the work that goes into manipulating and shaping those bits of data so that they are ready to become a printed essay, poem, story, or photograph, and such is also the case in the production of objects that use the Z axis.

For some reason, however, we have chosen to focus on the product, rather than the process, by calling the class I am going to teach “3D Printing” instead of “3D Design” or “Solids Modeling.”



This seems kind of funny. After all, when my school got its first dot-matrix printers, I didn't change the name of my English class to "Essay Printing."

Maybe things are different now, because these devices seem to add something substantial to our classes.

Schools have been teaching 3D design for a long time. How could a single piece of equipment, whose job seems to be all about the output of learning products rather than the design of them, have a meaningful impact on instruction?

As I thought about this question, I began to see a few areas where having quick access to the physical manifestation of a student-designed object could teach some important lessons.

Below are five "enduring understandings" that students can develop through the use of a 3D printer in their design process:

- Precision is valuable in any design, but the precision of any technological device has limitations and costs. The value of a highly precise or high resolution design must always be balanced against such costs and limitations.
- When you create a virtual object, your digital design tools have a finite number of variables that can be controlled quite nicely. In the physical world, your creation

can be affected by an arbitrary number of variables that are often difficult to predict and account for.

- You will almost never get it exactly right the first time. Persistence, coupled with adaptations, will eventually lead to success.
- Collaboration is difficult, and requires compromise. But when done well, it is powerful beyond belief in the design of large, complex projects.
- It is possible to imagine something into existence.

Obviously, none of these things have anything to do with the mechanics of 3D printing. Sure, students should learn the tips and tricks of removing stuck objects from the build plate and knowing when it's important to use rafts and supports, but these are probably not anyone's real objectives.

Quick access to the tangible products of their imagination makes learning opportunities possible, where students can begin to uncover enduring understandings that make them fundamentally better designers and problem solvers. ■

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The Association of American Educators Foundation
 27405 Puerta Real, Suite 230
 Mission Viejo, CA 92691-6388

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Gary Beckner, Executive Editor
 Alexandra Freeze, Managing Editor
 Debbie Brown, Editorial Assistant
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