UnBoxed

A Journal of Adult Learning in Schools

Graduate School of EDUCATION

*un*Boxed

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Graduate School of
EDUCATION

Students from Cady Staff's class working on their project Staff Class to the Past. For details on this project, see p. 54

cover: Image by Carlos Zaragoza and Victoria Anderson

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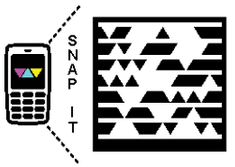
Welcome

The Editors



We are pleased to announce that with this issue, UnBoxed has become a peer-reviewed journal. We wish to thank the K-12 and university educators who have reviewed our submissions and offered invaluable counsel.

Several writers herein look to the future of education. Charles Kerchner proposes "Learning 2.0" as a new paradigm for the information age. Laura Webber reviews Jane McGonigal's Reality is Broken, and considers whether video gaming can indeed change the world. Mark Moorehouse describes the efforts of the Learning Futures schools in the United Kingdom to foster qualities of active citizenship for the emerging world.

If we can envision a new personalized, world-connected paradigm, what will it take to get there? Several contributors address this question concretely in terms of curriculum and pedagogy. Darren Mead introduces project-based learning in a Learning Futures classroom. Bryan Meyer helps students see mathematics as a powerful lens for understanding social issues Kali Frederick examines the tricky relationship between curriculum content and student experience in history class. Timoteo Delgado recounts his learning experience as a student intern in Cuba. Brett Peterson reminds us that project-based learning is not new, but has a long history in the progressive tradition.

What role do teachers play? In the UnBoxed interview, Judith Warren Little reminds us that the conditions of work for teachers are critically important. Ashley Walker engages colleagues in conversations about school change in a test-driven environment. Martin Said describes the TeachMeet process, wherein teachers share issues and practices with each other far from the usual confines of professional development.

UnBoxed readers may use their smartphones to link to related content while reading. To get started, simply download the free Microsoft Tag application on your phone. Then, wherever you see a "tag" or icon, open the application and scan it with your phone's camera. A website, video, or document will appear, offering further information and context.

The UnBoxed project cards in this issue offer glimpses of projects and practices that we find inspiring. These cards are freely available on our UnBoxed website in a printer-ready format. Simply print, fold, share and discuss. Each card refers the reader to a web address for further information.

We invite you to join us in conversations about purpose, policy and practice in education by submitting your thoughts for publication or serving as a peer reviewer. To learn more, visit www.hightechhigh.org/unboxed.

Read, enjoy, and participate!

—The Editors

Learning 2.0

Charles Taylor Kerchner
Claremont Graduate University, CA

Almost all the politics of education concerns rearranging adult power and privilege. Relatively little political energy is spent consciously designing a contemporary system of public education. That should change.

By focusing political energy on how students learn rather than the long list of hot button issues—tenure, teacher evaluation, charter schools, parent takeovers—it is possible to design a truly modern education system that is a worthy successor to the industrial-era public education structure that has persisted for a century.

In software nomenclature, we work with Learning 1.0, the first full version of mass public education designed to move most students from toddler through teenager. Designed in the early part of the 20th Century, Learning 1.0 involves all the parts of schooling that we consider normal and proper: students divided by grades, lessons by subjects, tests at the end of the year, and high school units collected toward graduation. But underneath it all are outdated assumptions about learning and how it is be produced.

Why, one might ask, should we be stuck in the eddies of an early 20th Century school design? The answer lies partly in culture and partly in politics.

In Learning 1.0, schooling and most other forms of formal learning are built on the design principle of acquisition and storage of information, only later acquiring the ability to analyze it, and, eventually, to use it. When Stanford University dean Ellwood Cubberley wrote the first widely used textbook on school administration in 1916, the acquisition and use of knowledge were proximate. Students left school early; most all by the end of high school, some by the end of third grade. The world of work and adulthood greeted them, however harshly. Indeed, in 1939, over 95 percent of the jobs in the automotive industry could be accomplished by someone with a primary school education.

Now, the lag between acquisition and use can be long. High school graduation is no longer the gateway to economic self-sufficiency. The pathway to being a medical doctor, a lawyer, or a professor can take a student well into their third decade before they practice what they prepared for. Deferred gratification, or at least incomplete selfhood, is one of formal education's fundamental lessons. (And we wonder why neurosis is rampant among the professional class.)

In this system, knowledge acquisition itself has value. As John Seely Brown notes, it's a Cartesian premise of "I think, therefore, I am." Pedagogy becomes the means to transfer knowledge through known and authoritative channels. Teachers teach. Students learn. Academic disciplines and courses of study organize knowledge into neat divisions. These become curriculum requirements that are counted and tested. Every strand of the public policy muscle surrounding these bones wants to strengthen these structures. The current system of tests and standards are the institution's biceps.

Learning 1.0 produces learning through batch processing and standardization. Age graded schooling, curriculum design, and a pedagogy aimed at the middle of a normal distribution curve assures that at least one-third of the students will be disengaged, bored, or utterly confused. In order to make batch processing and standardization work, schools developed an odd form of quasi-professionalism. Teachers were sent to college and education schools, and then they entered workplaces that featured industrial-style discipline and a hierarchical division of labor. Students were urged to grow up in classrooms that largely frowned on initiative.

While there can be debate about how well Learning 1.0 works, and for whom, the flaws in its design have become apparent, both financially and educationally.

Learning 1.0 has become fiscally unsustainable. Since 1964, most of the additions to the public education budget have been directed to programs outside the regular classroom, principally for special education and compensatory programs. Interventions that try to transform low performing schools have been expensive and for the most part not very productive. As trust in the capacity of public schools has decreased, external inspection, testing, and monitoring have increased along with the cost of these activities. Efforts to raise performance through high stakes tests and changes in governance have produced mixed results at best.

Learning 1.0 also relies on an old information economy, where increasingly large amounts of capital are necessary to create texts and curriculum, and where access to schools and classrooms requires lengthy and costly approval and purchase processes. Learning 1.0 largely ignores the emerging information technology built on peer production and collaboration by teachers and students.

Likewise, Learning 1.0 has become educationally questionable. Cognitive science tells us, for the most part, people do not learn through the acquisition and storage model; knowledge acquisition and practice are integrated. This was the case in traditional societies, through formal and informal apprenticeships, "working" the farm, or "learning the ropes" in a business. In these settings, young men and women acquired knowledge as they needed it, not for storage and recitation on tests followed by rapid forgetting. Urbanization and industrialization obsolesced the traditional learning-by-doing form of education. As children were withdrawn from the workplace, they also left behind the integration of learning and society, something that John Dewey recognized more than a century ago. Still, the Administrative Progressives, as they were called, were successful in establishing Learning 1.0, which appeared efficient and gained political support.

Now, we have the opportunity to redesign education by creating Learning 2.0, a more flexible, personalized, and experiential form of learning. The information processing capabilities of the Internet along with personal computers and other smart app electronics, have enhanced the capacity for "just in time learning": students are highly motivated to get the information they need to do the task that needs to be done. But even though it uses the Internet's network technology, Learning 2.0 results mainly from changing how people think about learning. More than the schools, it is people's heads that will need reprograming.

The Essence of Learning 2.0

Over the last two years, I have visited schools where people think outside the conventions of the acquisition and storage model, and where learning is organized in unconventional ways. Synthesizing these experiences and the rapidly growing research literature on learning, technology, and open education, it is possible to sketch the design of Learning 2.0:

1. A remix of acquisition and practice through project-based learning and other pedagogies that integrate head and hands. Integrating experience and academic standards creates multiple pathways through school without old-fashioned tracking, and integration often changes students' aspirations. Learning and doing motivates students and changes the flows of information.

2. An individual education plan for everyone. The official curriculum of most schools leaves large numbers of students either bored or bewildered, by both the speed at which knowledge is presented and the style of learning experienced. The system needs more variety in type and style of education, not less. Individualization and specialization of learning will allow different mixtures of technical, artistic, and conventionally academic education to co-exist and prosper. New technologies help, but individualization is as much about how humans rearrange their work as it is about access to software packages.

3. A redefinition of who is the worker in the education system. Historically, education reform has been built on getting adults to work harder hoping that this would make kids smarter. Instead, we need to design and build learning experiences that are accessible directly by students and which better motivate them. Given data about standards and expectations and the expanding universe of educational experiences, students are capable of much more self-monitoring and direction than the current system expects or allows.

4. Unbundle the time spent learning and the assessment of competence. While the current practice of semester-long classes may endure for some time, the system needs to open the capacity for students to learn and be tested in different blocks of time, and to be certified as having learned. If there are productivity gains to be made in education, they will be made largely in shrinking the number of years and months it takes a student to move through high school and higher education and by reducing the necessity for remediation for students who simply needed longer to master a topic.

5. A redefinition of Basic Skills. The United States has been obsessed with higher standards in reading, math, and science. But standards and testing are dangerously narrowing learning. Learning to collaborate and to solve ill-defined problems are to the 21st Century what industrial discipline was to the last hundred years, according to those who have studied what employers and society need. Adoption of a common core of standards, to which 46 states have subscribed, is supposed to address these issues, but the danger remains that these standards—like the existing ones—will produce a longer list of atomized, and thus trivialized, skills.

The Politics of Learning 2.0

The contemporary politics of education cannot produce Learning 2.0. The problem is not—as many who call themselves "reformers" allege—with education interest groups. Politics is always full of interest groups, and some of the loudest reformers have big stakes in the reforms they advocate and are reaping generous personal benefits from them. The problem is that the system is focused on the wrong things. For most of the last four decades, the interest groups in public education have battled over mandates and regulations: increasingly fine-grained rules about who gets paid for what and what paperwork needs to be delivered as evidence of performance. Those same interests need to focus on changing the design of the system and increasing its

capacity. Consider three policy levers:

First, create and use the capacity to design learning using 21st Century information tools. Rather than designing "one best system" as the developers of the early 20th Century learning model sought to do, adopt the notion of continuous improvement and redesign, what Google calls "permanent Beta testing." Do not assume that any state or the country can move from early 20th Century learning to Learning 2.0 by adopting a new textbook series, by cabling schools, or selling them tablet computers by the truckload. Do not assume that "best practices" can be distilled into an educational pill for all to swallow. Rather, think of educational design as "many hands" distributed work, such as that which created the Linix operating system or the on-line Moodle classroom and lesson management system.

Public policy has created several education laboratories in which natural experiments of Learning 2.0 can take place. Charter schools, in their original intention, were supposed to be Petri dishes of innovations that would be transferred to district-run schools. Pilot schools, which are essentially in-district charters, are being spawned in the Los Angeles and Boston school districts and could work elsewhere as autonomous schools where teachers and educators remain district employees. They have a similar experimental capacity, and each goes through an explicit design phase before being approved. An older, largely abandoned, tradition of university-based laboratory schools could also become developers of Learning 2.0.

These schools should be treated as laboratories of learning, rather than experiments in governance. Those experiments should be explicit, a part of the design and application process for such schools. The requirement for pedagogical experimentation should apply particularly to those charters and other schools that are granted authority to work across school district boundaries. And the states should top-up charter school funding to allow careful documentation. Universities should be able to modify their teacher and administrator education programs to incorporate laboratory schools, and should get added support to do so.

Second, carefully deregulate. In many ways charter school law discriminates against existing school districts, making it easy for charters to be innovative while failing to scrape four decades of regulatory barnacles from the hull of district-run schools. The most important change involves moving toward a system where student progress can be based on mastery of a subject, rather than the number of days and minutes that a student's bottom was attached to a school seat. Some blending of attendance-based financing and achievement incentives would spur new forms of learning.

In addition, Learning 2.0 involves many changes in work rules. Blended learning or the organization of learning in ways other than traditional classes obsolesces standard class size limitations, indeed the whole definition of a class. Monitoring on-line instruction probably doesn't require the skill set of a certified teacher. We don't yet know all the contours of a teacher's job in this new environment; much less what's fair and just. We do know that getting from here to there will require a lot more flexibility and experimentation than the current system generally provides.

Either through legislation or teacher contract, states need to open up space for experiments within school districts. The unions resist these changes at their own peril. Historically, unions have not fared well when the basic technology of work changes. In the large Blue-politics states that have at least semi-friendly political environments, teacher unions have the chance to get ahead of the curve of teaching and learning innovation. If they fail, and most pedagogical innovation takes place outside the realm of district-run unionized teachers, the attractiveness of these district schools as workplaces is likely to diminish rapidly along with the size of the unionized sector of public education.

Third, invest in a learning infrastructure for students. Think of it as a combination of Facebook for school, the best computer game you ever saw, and a smart app for your mind. By thinking of the student as the end-user rather than designing educational products that will be attractive to a textbook adoption committee, the state can vastly open up learning to new participants, approaches, and ideas.

Consider the Kahn Academy for a moment, the singular creation of Sal Kahn using off-the-shelf software and retail technology. Its web site now contains over 2,700 math lessons (mostly) and gets 3.5 million visitors a month. Consider the burgeoning open-source courseware

movement first centered at MIT and Carnegie Mellon and now spread around the world with scores of additions each week.

The country or a state does not need to create a single learning utility, a power grid for learning. These are already springing up, and district schools and charters are testing and adopting them. Consider Moodle, the open-source classroom and lesson management system that is being used by school districts throughout California and by the California State University system. With tens of thousands of users, a wealth of adaptation of Moodle's program is already taking place.

Although there does not need to be a single learning utility to which all students and schools subscribe, there does need to be a network of learning utilities, the pedagogical and intellectual equivalent of common grazing land. The state has a very strong public interest in preserving the open-source commons and not outsourcing the intellectual and pedagogical core of its educational system.

Learning 2.0's commons-based, peer-to-peer collaboration is a powerful new production system that takes advantage of the Internet's technical and networking capacity. Its means of production is starkly different from that of the existing information industrial economy. In Learning 1.0, the long-standing practice of purchasing textbooks and educational materials from vendors morphed into buying programs of instruction and whole school designs. Education followed the mid-20th Century information economy model that applied to newspapers and television stations: scarce expertise and high fixed costs. Only a few people had the ability or the capital. Thus, the textbook and instructional materials oligopoly came into being, the educational equivalent of the "military-industrial complex" that Dwight Eisenhower warned us about. Learning 2.0 turns that older production system on its head.

It is particularly important to protect the commons as a way to develop and benefit from the knowledge of teachers. Proprietary software developers and the retooled textbook companies are intent on delivering complete integrated programs that are easy for school districts to adopt, but which lock them into the tender mercies of vendors. In contrast, most open-source learning systems and the platforms for developing applications are adaptable by teachers and often by students. This commons-based peer-to-peer production system is an integral part of Learning 2.0, both its pedagogy and its economy.

Politics will have to sort this out. However, I believe that the existing interest groups are forming battle lines in the wrong places, primarily around the regulations regarding technology use. The more fundamental design decision concerns who builds Learning 2.0? At issue is whether teachers and school administrators are to be cast primarily as industrial era factory workers, whose job it is to oversee the flow of externally created learning technology; or are they primarily educational artisans and craft workers, whose job it is to choose among available tools, adapt them to specific needs, and build new ones?

Protecting the commons means public funding of computer access and software development. It means including time in teachers' workdays for their participation. It means developing technology that teachers and students actually want to use. It means incentivizing those teachers who are leaders in development. The state advances its interests by creating design standards, in the same way that Apple creates standards for the applications one can buy for its phones and tablet devices. By creating design standards and learning modules, the state will allow teachers and many others to combine bits and pieces of instruction and teaching ideas from different sources, and prevent the vendor's monopolistic practice of creating what is called coherence as a way of increasing market share.

This is the pathway to Learning 2.0.

That my dreams about public education can indeed come true, if schools, teachers and students are able to break out of the bureaucratic constraints that are smothering most public schools. There are small, integrated schools all over the country – many of them are charter schools, others are within districts and have negotiated the freedoms necessary to hire their own teachers and empower them to be co-creators of schools.

I have visited many schools in many states over the last three decades. I almost universally find that in small independent schools, whether privates, pilots, or public charters, the teachers have far more control of their work than teachers do under collective bargaining agreements.

I have seen more authentic assessment in such schools than in traditional district schools. I have been to evening exhibitions of student work in these schools where the building is packed with parents, grandparents, siblings and cousins because the students have told them all, "you must come see what I did." This is a form of transparency of what students and teachers are up to that gives new meaning to public participation. This is a different way to have strong community engagement – inviting the community into schools on a regular basis to see students present their work. Another powerful method is the internship, in which students engage in real work and real learning alongside a mentor in the community, and are not isolated from the adult world they are preparing to enter.

It is possible to have choice with diversity. A non-meritocratic, zip code based lottery randomly selects students in a way that insures diversity. Coupled with no ability grouping within the school, one can find schools that are both diverse – and integrated.

And now I work in a setting that has a Graduate School of Education fully immersed in our K- 12 public charter schools. Adult learning is integrated with student learning in a community of learners. It involves planning and executing differentiated instruction for diverse students in an integrated setting. It is founded on an integration of "head and hand" – a marriage of the pursuit of literacy and numeracy through a constructivist, applied, expeditionary pedagogy.

Now I see K-12 schools coupled with adult graduate school learning imbedded within a conceptual framework of inquiry and design, leadership, and reflective practice. This is the democratic schooling I have longed for. It can happen.

Want to Get Home on Time?

Mark Moorhouse
Matthew Moss High School, UK

At approximately 3:45 pm on Thursday, May 27, 2011, the traffic lights fail at a busy interchange in Rochdale, England. This is bad news.

By 4:25 pm it is chaos, a grid-lock of vehicles and ire, an absolute impasse. My colleague, Leanne, is stuck in the midst of this in her car, trying to pick her way through and get home. Stationary, stuck, cars nose to nose at all angles in a tense stand-off in front of her.

And then, Zahir, a 16 year old walking home from school, does something breathtaking. He walks to the middle of the junction, to the epicentre of the jam. An achingly awful moment ensues. Will he get run-over? Punched? He then calmly walks to the front of one of the vehicles, taps the hood and gestures to the driver to back-up. Which... the driver calmly does. Other vehicles comply with Zahir's measured assertions and within two minutes a flow is established. Our intrepid hero, positioned in the middle of the junction, halting one stream before beckoning another through. Other students walking home decide to assist, forming pairs and taking up position at each of the

entrances to the interchange. And off they go in harmony, watching each other, anticipating, judging, managing the traffic flow from each direction with remarkable effectiveness.

Motorists applaud. Drivers call the school to tell us about this impressive show of initiative by the students. A fire engine passes through, the driver giving a thumbs-up of appreciation to the lads. A truck driver, returning to his transport depot, reports on arrival that he would not have returned in time if it weren't for the students' actions. He describes seeing a police officer giving the lads a thumbs-up from a patrol car. And he talks of a crew of builders in a van slowing, as they crossed the junction, to wind down windows and throw high-visibility vests to the lads to keep them safe.

As the stories unfold about the incident, the whole event becomes more powerful as an expression of what an effective society should be like. True, after about 30 minutes, another police officer passing in a patrol car told the students that they would have to stop or he would arrest them. So they left and he left and the mayhem re-established itself again for several hours. Within this story there are points of view about the students' safety and police under-staffing as well, so we shouldn't be too hard on the officer whose abruptness was probably due to a shortage of time. I'd driven down to the junction too, to tell the lads that they had done a brilliant job but that they couldn't do it indefinitely due to the safety risks. I had to walk the last half-mile through the traffic to see if they were still there, but they had been sent on their way by then.

However, it remains a vision of something special, these young impromptu public servants and the contribution they made to their society that afternoon. And all this really happened: the Rochdale Observer ran the story and the event is remembered fondly in the local community.

What is the link with schooling? Well, if we want to create a society in which we all take responsibility for the good of the whole, then how we educate our young people is of absolute significance. Moreover, where learners are situated politically within their school, specifically with regard to issues of shared ownership and the quality of discourse, is critically important? So what was the school experience for the traffic cop students like? How were their conversations with teachers? What was their experience of learning?

Their school values "adult" to "adult" discourse between staff and learners and the pedagogies of Project Based-Learning. Neither, clearly, is unique to this school and practice is never perfect. What might be significant, however, is the enmeshing of these two strands of discourse and Project-Based Learning in the practice of learner/teacher co-construction and collaboration across the school.

Quality of Discourse

"Teaching isn't about paper and pencils: teaching is about relationships."

--Berger, 2003, p124

The young traffic cops' school values high-quality discourse and does not approve of verbal aggression. A young and talented teacher joined the school a few years ago and had an altercation with a student that led to the teacher shouting. Students gathered to see what on earth was happening. Later, a senior colleague took the teacher aside to explain that shouting didn't happen in this school. He got it. He was a decent man. He had merely been habituated to this mode of interaction in his previous schools.

But how we talk with learners really is that important. It is a crystal-clear indicator of whether we are situating ourselves on a level with them. Or not. This is not new knowledge, as any number of axioms demonstrate: "Respect everyone, fear no-one," "What goes around comes around," and "If you want respect, give it."

An adult to adult relationship—not the parent to child dynamic of "Sit down!" or "Yes Sir!" but the equality of "How should we learn about this?" and "What is best?"—affords young people a meaningful stake in their community. They are being consulted. They are part of it. They belong. Their education is not done to them but in partnership with them. We all fret in schools (and rightly) about establishing stronger partnerships with business and parents, but often overlook the immense reciprocal value of real partnership with the most powerful stakeholder group of all: the learners side by side with us every hour of our school day.

Transactional Analysis theory illuminates this further by describing three mind states operating within us all. Crudely, they are "Parent" (rules and regulations), "Adult" (reason and enquiry) and "Child" (feeling and emotions), which operate independently of age. A three year old saying "Grandma! You should not be smoking!" is active in "Parent." A 63-year-old throwing a snowball is in "Child." A teenager discussing how best to manage the breakdown of her parents' relationship is in "Adult."

Level "Adult" to "Adult" discourse is, clearly, where the reflection that facilitates learning happens. It is the shared space of reason and enquiry. How counter-productive, then, that "Parent" to "Child" is the default setting of traditional teacher-learner interactions. This gradient has a formative impact on young people as they shape their relationship with society. They are not equal partners so it is not really their school and therefore not really their society. They get the message: that it all really belongs to older others. In one sense the UK riots of 2011 were a terrible expression of this collective self-image of successive cohorts taught, spoken to (rather than with) and managed in ways that perpetuate a mean mindset which asks: "What can we get away with when teacher isn't around?" And becoming habituated to being at the lower end of this gradient further limits personal development for learners by making them dependant on the direction and permission of the "Parent" to make decisions and take positive action.

Thomas A. Harris develops "Adult" to "Adult" discourse into a life position, which is expressed by a sense of "I'm OK. You're OK, " the ultimate evolution of the three, more limited states. He writes:

> There is a fourth position, wherein lies our hope. It is the I'm OK, You're OK position.… The first three positions are based on feelings. The fourth is based on thought, faith and the wager of action. The first three have to do with why. The fourth has to do with why not?" (1995, p. 48)

So why not step up and do something to help everyone stuck in the traffic jam?

Both students and staff at the young traffic cops' school are introduced to the language of Transactional Analysis and the insights it brings. This is part of the school's ongoing mission to maintain and improve the quality of "Adult" to "Adult" discourse and promote an "I'm OK, You're OK" life position for its students and faculty. When individuals encounter a social problem, we hope they will have the dispositions to be thoughtful, have faith in themselves and take the wager of positive action.

Project-Based Learning

If we want the collective benefit of young people taking positive action of social value, then schools must allow them the freedom to act authentically, rather than merely listen and follow instruction. Predominantly, however, it is the non-compliant learner who gets to exercise personal agency by operating in spite of the institution. They get the practice of taking control whilst those more tolerant of pedagogies requiring passivity get practiced in just that. Indeed the degradation of the educational experience over the years from 'hands-on apprentices to hands-off pupils' has been well-described (Abbott with MacTaggart, 2010).

Initially, more strange and difficult for both learners and teachers than the traditional paradigm of listen-ingest-regurgitate transmission

teaching, Project-Based Learning grows learners with real strength, who can cooperate, think for themselves, organize and assess, of their own volition. This is of massively greater social value than training learners to memorize. Indeed, the most high-stakes learning within our developed world, the training of doctors, is enacted through project-based learning: a patient is presented with a set of symptoms, medical students form groups, learn collaboratively and then present their diagnoses for assessment. And this is a highly transferable model. Here's a project for learners on their way home from school: all the traffic is helplessly stuck at a busy intersection, so think what to do, form teams and work together to get everything moving again.

Project-Based Learning is a significant part of the young traffic cops' school culture. The youngest group devotes a quarter of their time to "My World," a section of the curriculum with no prescribed content. The narrative is that the learners have been stranded on a desert island and have to survive without adults. In groups they pursue projects, sometimes defined (make a model of your island; devise a constitution; manage an election process) and sometimes entirely learner-devised and led (Why does a fire steel produce sparks? What effect do chord progressions have on mood and morale? Learn to speak Tongan). Critically, their experience involves leading projects, as opposed to always being led through them by the teacher.

In their second year, My World students are lead through a project in which they research their family tree and family history, and move to self-directed projects where learners find community issues that engage them and devise ways to make a difference. Examples include awareness and fund-raising in support of the homeless and helping with the design of a new sports centre.

Within these examples begins to emerge the practice of learner/teacher co-construction which was so much a part of the young traffic cops' school experience. Such active involvement in their schooling is vital to the development of empowered and motivated learners and citizens. As Alfie Kohn notes:

> Behaviourism is consistent not only with a particular kind of pedagogy ("Take out your worksheets boys and girls") but also with a situation where the curriculum is fixed and the students have little to say about the process or content." (2000, p. 65)

As teachers, we need to involve students in co-constructing the design of their own learning.

Learner/Teacher Co-construction and Collaboration

The focus on "Adult" to "Adult" discourse and a growing expertise in Project-Based Learning results in an untypically strong culture of learner/teacher co-construction. Over time it is becoming clear that the value of this partnership between students and staff is not only ethical, but includes increased efficiency and innovation. Dr. W. E. Deming, the American statistician and business leader, advised, "Put everybody in the company to work to accomplish the transformation. The transformation is everybody's job" (1986, p. 24).

We have learned that student/teacher co-construction is actually more efficient than much existing practice, which can work to both exhaust teachers and disenfranchise students. For instance, when my colleague began planning a module on Gothic Fiction, she stopped and instead waited for the first week of the new term to construct the scheme with the learners in her class. They wanted to watch films, find out about Mary Shelley and Bram Stoker, write stories of their own and design a display area for their work. This planning was done without reference to the curriculum standards the class had to meet. And there was no reason to cross-reference all these ideas with the bullet-points of the prescribed curriculum: that was Sarah's job. The finished scheme was excellent. It was more creative than one teacher's mind would have constructed. And it was more engaging for the learners because they owned it, and understood its rationale and where it was going. Moreover, it covered 60% of the prescribed curriculum for the year within a half-term.

A science colleague went a step closer to high-stakes testing and the prescribed curriculum in his practice, but he still invested the time to co-construct an approach to learning with his students. He showed them a section of the exam they would all need to pass six weeks later and asked them questions. Which sequence is best? In what ways should we engage with the differing areas of content? What assessments do you want to have to ensure you have learned deeply and securely? A high quality scheme emerged that was varied and rigorous.
If the best way to learn something is to teach it, then it follows

we should share the teaching. This is not being a lazy teacher, but becoming a different kind of teacher, one who provides students with opportunities to stretch themselves and build their dignity, confidence and agency as learners.

Indeed, the boys' school where I work is so authentically committed to exploiting the reciprocal benefits of learner/teacher collaboration, that it regularly shares the responsibility for resource management with students. For instance, one group needed raw materials for their soap-manufacturing project. They were directed to the Business Manager's office for a requisition form and an explanation of the principles of Best Value, by which their order would be considered when submitted. How important it is for our global future that young people have experience of the responsibilities involved in managing shared, finite resources. How dangerous that they get so little real experience of this within schooling. And what a path to a heightened sense of civic duty this was for the young traffic cops.

Concluding Thoughts

The link between the positive actions of the boys in the traffic jam and their schooling is about how they were spoken with, how they learned, how they were consulted and collaborated with by staff and how, through all this, they came to see themselves.

Young people cannot be expected to be active citizens if we train them to be inactive in schools. They cannot be expected to make good and ethical choices if, day after day, within their compulsory education, we allow them few opportunities to make real decisions of any import. They cannot be expected to operate as confident and effective citizens within our society if they have had an education that trains them, during their formative years, to be dutifully passive receivers of instruction.

If we really want a better society, then schooling must develop in young people a sense of agency and strong dispositions to make decisions and to act. In doing, we give them the means to live a life both valid and satisfying to themselves and of significant value to society.

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Sharing Bright Spots, Ending Isolation

Ashley Vasquez
Finney Elementary School, San Diego

My dream school is a place where students want to learn and teachers want to teach. The teachers know each and every one of their students personally—their learning styles, interests, family backgrounds, passions, and home environments. The teachers are energetic and passionate about their work, yet structured and focused. They consult and collaborate regularly with colleagues. They treat students like young adults and instill values of responsibility and respect. They incorporate technology into everyday instruction and make learning valuable, pertinent, and connected to the community. Teachers make a place for parents in their classrooms, and invite them to share in their child's learning.

The main disconnect between my dream school and my current reality is teacher isolation. Chatting with a colleague at my elementary school, I realized that several teachers have difficulty asking other people for assistance, especially beyond the people immediately surrounding them. Many of our teachers are strong, confident, and independent, accustomed to finding solutions to their problems on their own. I

started thinking about how many creative solutions we could find to our problems and questions if we could find a way to bring all our strengths and confidence together. Like others, I too began to isolate myself last year, and still do this year, to some extent. If I didn't work on my own tendency toward isolation, how could I make my dream my reality?

Many teachers at our school are friends, but they do not collaborate with each other in terms of teaching strategies and techniques. Teachers have grade level collaboration every other week for 3.5 hours, but several teachers have taught more than one grade level and have insight as what works for students at other age levels. Unfortunately, collaboration seems to be confined to the immediate people around you. I don't know too much about what is going on in the sixth grade classrooms, yet, I may have some great ideas for tackling certain teaching issues in those classrooms. Those same teachers could also assist me in my teaching. As students progress through the grades, more and more teachers have developed relationships with them. What fabulous ideas could come about if all the teachers who had a particular student in their class, came together to offer suggestions in bettering that student's education. Once a student is in 6th grade, assuming they started at the school in kindergarten, seven teachers would have a year's experience with that student's strengths, struggles, hopes, and dreams. In the end, children are children no matter what grade they are in.

Bright Spots: Stepping Up

The discussion with my colleague helped me realize that most of our colleagues may have many of the same passions and struggles as we do. However, we will never know these passions or needs if we don't open up the lines of communication across the grades. The chat inspired me to think about how I help create a trusting and comfortable environment where I can reach out to other teachers, and other teachers can reach out to me. How was I ever going to tackle this lofty goal?

My "aha" moment arrived during a discussion with a colleague in a graduate class. We started talking about how to apply the idea of "bright spots" (Heath, 2010) within our own schools. Far too often, the proposed solutions to our problems originate from people outside of our teaching community. We often complain that these "outsider" solutions don't pertain to our classes, our students, and our style of teaching. Our best solutions come from the teachers teaching right next to us, in our same school, in various grade levels. These solutions and spectacular teaching strategies are called "bright spots."

My colleague, who works at a nearby school, told me how his school has constructed a successful form of professional development that involves sharing each other's bright spots. Each colleague must present at least once or twice a year on something they feel would help others. Topics range from "How to work with difficult parents?" to "How to successfully incorporate project-based learning?" Most times, presenters are allowed to chose their topic of presentation, but sometimes an administrator will ask for help on presenting information about a specific topic that seems to be currently difficult for many teachers, for example "How to structure student-led conferences?"

Although I wanted to immediately implement this type of collegial conversation at my school, the time was not right. An environment of open, cross-grade level dialogue and authentic discussion has not yet been established at my school. I began thinking about how I could implement the idea of bright spots, in a subtler and less intrusive manner.

I've talked to my administrator as well as a colleague at my school to identify the best way to introduce the idea of "bright spots" to the staff. Since our staff meeting time doesn't currently have a flexible schedule, I had to introduce the bright spot idea in another venue. I decided to type up an introduction letter and corresponding survey about finding bright spots around us. If it turns out that one or two teachers receive a lot of "bright spot" recognitions, then they would obviously be given opportunities to share their ideas in a whole group setting since everyone may not be aware of their awesome work. We could also feature a "bright spot" of the week and include it in a staff newsletter and/or during a staff meeting. I honestly believe that each teacher at our school has a strategy/technique that could be considered a "bright spot." Through the surveys, I will be able to gauge how staff members understand the concept of "bright spots" and whether or not the idea of "Bright Spot of the Week" would be beneficial and useful to us.

Waiting for the bright spot surveys to be administered and collected, a colleague and I decided to encourage our principal to begin our staff meetings with recognitions instead of just personal celebrations. We wanted to support the notion of recognizing others as well as promote a positive and collaborative culture. Our principal agreed to make the change and the turnout was remarkable. Staff members were more than eager to congratulate each other and recognize each other for their accomplishments, hard work, and overall dedication to the teaching profession. Teachers were also recognizing colleagues from other grade levels. With recognitions going so well, teachers were becoming more and more comfortable with sharing their work and accomplishments in front of their peers. One or two teachers began sharing teaching strategies, instructional techniques, and work samples from their classroom at staff meetings. Our principal was great at encouraging amazing teachers to stand up and share their "bright spots." Bit by bit, I could see the culture of communication changing amongst our staff. The overall attitude changed from pessimistic and negative to optimistic and positive.

I'm confident that these ideas and action steps, if nothing else, will improve my personal battles with isolation. I hope to help other teachers feel like they belong to a collaborative school, but I cannot guarantee the outcome. What I can guarantee is how I will change and grow. One of the hardest things about being a fairly new teacher at my school, is stepping up and taking the lead as well as stepping forward and asking for help. By taking these two steps, I am removing myself from isolation. I can't expect others to change if I don't change myself.

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To learn more about Ashley's work, visit her HTH GSE digital portfolio at: http://ashleymwalker.weebly.com/

Teachers' Work and School Change

Judith Warren Little
University of California, Berkeley

I*n this UnBoxed interview, Judith Warren Little, Dean of the Graduate School of Education at the University of California, Berkeley, describes her entry into the profession, her lifelong curiosity about the conditions of work for teachers in schools, and her hopes for constructive dialogue within and across sectors about the aims of education.*

INTERVIEWER

How did you get started in education?

JWL

I was not one of those people who played school and knew from early on I was going to teach. But I went to high school at the Park School of Buffalo, and Park was a transformative experience for me. It was one of the first independent country day schools in the United States, founded during the Progressive Era by Mary Hammett Lewis, who wrote a wonderful book about her experiences there, An Adventure with Children. I came to Park from a very large junior high with

some excellent academic teaching but an emotionally vicious student culture with the usual cliquishness, where the adults seemed to take no responsibility for shaping a respectful peer culture. Instead, Park School valued the twin aims of cultivating individual interests and building community. I keep looking for schools and workplaces that do those two things.

Later, I had a teaching credential in Secondary English in Boulder, Colorado. English teachers were a dime a dozen. I couldn't find a job, and I wasn't really sure I wanted one. So I was living in the mountains, driving a school bus and tending bar at the ski area on the weekends, and since I had a teaching credential, I could substitute. I would drive the bus into the school lot in the mornings, and if they needed me to teach, they'd yell out the window and I'd go and teach. Never during that time did anyone—principal, assistant principal, or teacher—ever come by the classroom to see if I needed help or if I was murdering the kids, or anything. I thought, "This is a very odd occupation and an odd kind of workplace. Do I really want to do this?" Eventually, I went back to graduate school in sociology and soon found myself right back in schools looking at how they're organized to support or not support kids. As a result I became very curious about schools as workplaces for adults, and I've been there ever since.

INTERVIEWER

How do you think schools could support teachers better so that they don't feel isolated in the profession?

JWL

My entire career has been built around that question, in a way. In graduate school, I worked as a research assistant with a team doing research on the ways that schools contributed to or helped prevent delinquent behavior. We were working on the assumption that if schools built kids' attachment with each other and with adults and helped them develop a sense of a future, then their chances of being successful in school were higher.

While doing that work I became more and more interested in what the school was like as a place for adults to work in a way that could be satisfying and effective. Eventually I got funding for a study about the contribution professional development was making to schools' ability to succeed with big external changes, in this case court-ordered desegregation in a large urban district.

I found that the schools that were succeeding and making good use of professional development were ones that had built robust cultures of collaboration. They had norms of collegiality and experimentation, and these had to go together. If you had people who were very tight as a group but didn't have an ethos of experimentation, they became pretty smug, and they resisted external ideas, and it was hard for new teachers to break into the group. If you had experimentation but not collegiality, you'd see a lot of individual teachers trying stuff and getting frustrated. The successful schools had the two really strong norms of collegiality plus experimentation—the willingness to support each other in trying new things. The big insight was, whoa, it's about trying to foster those professional relationships in schools. So that was surprise number one.

The second surprise was how hard it is to build that culture in schools that are built for the individual teacher with 30 kids in a room. All those years ago, when I wrote the first piece on collegiality, I found that people resonated with those ideas terrifically. Then they said, "But we have such a hard time doing it." That's been the next preoccupation. How do you help people do this?

INTERVIEWER

How does the current emphasis on standardized testing and teacher accountability square with creating schools that promote collegiality and innovation?

JWL

They are in terrific tension right now. In the schools where I've seen really fantastic things develop, it's been a matter of people being constantly attentive to what's going on with kids. What are the kids struggling with? When they actually succeed in, say, understanding a difficult concept, how did they manage to do that? What are the progressions toward real understanding? People in such schools

develop or adopt some kind of language for talking about kids in a generative way.

Lani Horn has a wonderful paper called "Fast Kids, Slow Kids, Lazy Kids," about how powerful our category systems are in defining our world and constraining or opening up possibilities. For example, the language of fast kids/slow kids is so constraining. Effective collaborative groups have a way of interrupting those taken for granted ways of thinking about what kids are capable of, and instead creating opportunities that really allow kids to connect with each other and with ideas. They pay constant attention to what kids can do, and they think in "what if" terms. What if we tried this, or this? And they continue to scrutinize their own practice.

Lani and I did some research where we followed self-identified collaborative groups of teachers. These are people who really care about doing right by kids, and yet in most of them, the fast-slow language is endemic, and it's very hard to interrupt that. Leaders in one particular group were helped greatly by professional development they got at Stanford in Complex Instruction, really monitored themselves and helped beginning teachers adopt new ways of talking about kids and examining where that language comes from.

The identification of a child as fast or slow really starts in the early grades. If you can read fast or do number problems fast, you become the fast kid, the smart kid. Fast means smart. The leaders of this group had a way of exposing that origin, and then saying to beginning teachers, "What you have to do is construct tasks. First of all, you find the thing that the 'fast' kid is slow at, something that requires real work to get into. Say you design mathematical tasks that don't just easily lend themselves to a fast solution." There are lots of ways to be smart, lots of ways to enter into a problem. But it's hard work to keep yourself attuned to how you're thinking about teaching, learning, and students, particularly where there is so much emphasis on standardized testing.

INTERVIEWER

You mentioned that your experience at Park was transformative. What other moments have shaped your thinking about teaching and learning?

JWL

Well, certainly that first study about professional development and change, because it evolved in ways that I just hadn't anticipated and gave me some insight into how important it is to grow an organization. Beyond that, I wouldn't point to particular moments so much as how important it's been for me to work with my own students, how much I learn from them, and how much they've changed my thinking. My colleague Lora Bartlett is my former student. I remember the day she first said, "We get the teachers we organize for." I thought that's a great way to put it. So I always feel like my thinking is influenced by the kinds of questions that students pose.

The experiences that allow people to really connect and learn across difference have been important for me, and it saddens me that these are so uncommon. I think that's one of the places where digital technologies come into play, where you can bring together people from all over the world, making our walls more permeable and our experience more connected.

One of our faculty members, Glynda Hull, has a project, Kidnet, that uses a platform called Space to Create (Space2Cre8). She links students and their teachers in four countries, two developed countries and two developing countries. Her aim is to find out, given that platform, what happens in terms of cross-cultural, cross-national communication and relationship building. I think if we look down the road a generation, that will be the world people live in. Right now it resides in these small, special projects, but looking forward, the world could be connected in many more robust ways.

INTERVIEWER

How about students from different neighborhoods in the same city being connected so that they can work and learn from each other?

JWL

A number of my colleagues have studied the patterns of connection or

isolation in neighborhoods and schools. What happens in education is so bound up with what is happening in communities more broadly. Districts for years did busing and devised various plans to diversify schools, in tension with kids and families feeling any connection to a local school. Meanwhile, cities that have experienced middle class flight have a limited pool to integrate in the first place. So I guess if I think about that kind of connectivity, I can't separate what's going on in schools with what it would take to re-diversify and revitalize cities and communities.

INTERVIEWER

Could online communities be part of the solution?

JWL

I don't know, but what's making me very curious is that people are working with that. One of the questions that comes up here at Berkeley is how do you do online some of the things that we find difficult and important to do face-to-face? In our leadership program, one of the important things is to be able to have difficult conversations about sensitive issues. How do you build the kind of trust that allows for and invites those conversations and the kinds of critique and challenge of oneself and others that are required? That's an open question. I know that there are people who would assert you could never do that online. I'm not willing to make it an assertion. I'd rather make it a curiosity. What can we do online that's important to do?

INTERVIEWER

What are you thinking about in your work right now?

JWL

If you look at what's going on across our school, there is a set of commitments that are shared about education in a democracy and about really robust environments for learning and for building a social fabric. But I don't know that we've really thought a lot as a group yet about where we take those shared values and turn them into a vision for what we're going to work on and who we're going to work with over the next ten years. That's the question we're asking right now: what's the strategic vision? One project that we really commit to is building leaders—leaders in the teacher workforce, leaders who lead and run schools, leaders in communities and community organizations. That's a strategic emphasis for us that we're really working on and seeking partners in.

Another piece is that for the 25 years I've been here, I've been surrounded by colleagues who are doing great individual research and building partnerships in the community, but we haven't worked collectively on big problems. Part of my vision for the school is that we do more to have a collective presence around these big issues and figure out what people from different backgrounds and different kinds of training bring to the table. That involves, in part, reaching out to other departments and schools on campus, which we've been doing, and also outside to other organizations, including the charter schools and edupreneurs as well as our longstanding partners in districts and schools.

INTERVIEWER

When you think about the national dialogue on education, what do you wish people were talking more about?

JWL

I'd like for us to come to terms with what we really mean by an educated person. It's deeply discouraging to me to see the way in which we have so narrowed our vision of what we want for kids and who we think teachers are. The relentless teacher bashing, for someone who studies teachers' work, is truly discouraging and upsetting. The vision of what we want for children and young adults and what we therefore want for the adults who work with them, those things are missing from the conversation. Can we think about schools as places that could be really joyful? You hear about rigor, accountability, all of those kinds of terms, but we don't hear language about those who inhabit schools really making a contribution in the worlds that they live in and feeling accomplished and being able to point to accomplishments.

I wish we could get ourselves thinking about how we produce a society

we really want to live in and schools that we would be eager to go to as places where good work is going on. I'd like to see more curiosity in the conversation and less certainty about what's good for others. We have to think about how to reinvent school as a place very different from what we've had in the past. We need a wide debate and discussion and set of innovative impulses around that problem—not just a lobbing of competing positions at one another, but actual conversation and curiosity about what education could look like in the future.

Teachmeet: Professional Development by Teachers, for Teachers

Martin Said
Cramlington Learning Village, UK

In the sumptuous surrounds of the Tyneside Cinema, we found ourselves supplementing our pedagogy whilst supping on hillbilly lemonade with the sounds of King Stitt, Jamaica's oldest living DJ ringing in our ears. We knew we were onto a good thing.

We arrived in this fortuitous scenario as a result of a happy misunderstanding. Days earlier my colleague Fergus Hegarty, half asleep with King Stitt's Christmas Tree on his ipod, misinterpreted the lyric 'Drink wine, feel fine' to be 'Take your time, leave a line.' This of course makes perfect sense if you have an 11th grade chemistry group the next day, for whom remembering and consequently executing instructions for a practical experiment is not amongst their strengths. So the next day you run with 'take your time, leave a line' and carry out the experiment without verbal instruction or commentary, asking your students to make notes on your demonstration. You tell them "Don't worry if I go too fast, take your time, leave a line, someone else will pick it up, we're all going to share our notes anyway." And you find your students asking better questions and engaging with your instruction with greater efficacy, and what's more, they are doing it a

way that is both more interactive and communal, or to put it another way, fun!

And what fun we had taking the role of Fergus' students at the subsequent Teachmeet. Except that the process Fergus shared with us at the Tyneside Cinema was how to make hillbilly lemonade, which is most certainly not part of the UK A-level Chemistry curriculum.

This is the way Teachmeets work, with teachers happening upon good ideas, trying them in their classrooms and sharing the outcomes in a reciprocal cycle. Teachmeet is a movement of 'unconferences', an unconference being a gathering that is both organised and driven by the participants rather than a traditional conference which might have a more top-down or agenda driven, transmissive structure. As such Teachmeet works equally well in large conference halls or the back room of a pub and thanks to digital media its reach is beginning to extend around the globe.

Since the first Teachmeet in Glasgow in 2006, the idea has proliferated throughout the UK thanks largely to its communal ethos and also the advent of web 2.0 and social media has made it increasingly easy for teachers to arrange, reflect upon and promote the events.

Presenting at an event is voluntary and you can choose to do a 7 minute micro-presentation or alternatively a 2 minute nano-presentation and these must be based on classroom practice and experience rather than promoting or showcasing any products. Of course you can also choose to be an enthusiastic lurker and tuck into the free food and drinks (an integral part of the evening). You may even choose to take part in informally facilitated learning conversations in the break between presentations.

Over the years Teachmeet variants have been developed such as fishbowling, where a group of teachers sit in the middle of the room with an audience. The members of this group are the "fish". They talk through a problem that is facing them and share the process of solving it. The audience watch, suggest ideas and ask questions. Then members of the audience have the opportunity to swap seats with the fish and either lead the conversation down a new path or to pose a new problem.

What has been striking about the increase in popularity of Teachmeets is just how far teachers will go both literally and metaphorically to find ways to meet and to share practice. Typically at events I have attended there have been delegates travelling upwards of 100 miles to be there. We have had live links to speakers at Glastonbury festival and a colleague who recently set up a Teachmeet in a neighbouring county, chose to time the virginal Teachmeet so that he could bring his mother-in-law, a principal of an elementary school in Las Vegas to share her ideas with local primary teachers in person. Why is it that teachers will travel to such lengths?

"Teachmeet provides a space and social atmosphere to share ideas -- there is something special about getting peers talking to each other," says language teacher Ewan McIntosh who first coined the term Teachmeet supporting the view that "the best teacher of teachers is another teacher" (UCLA Writing Project, 1998, p.1). "Teachmeet is not about technology but about teaching," says Ewan. "It's a trading of stories -- the technology helped us find each other."

At our last Teachmeet NorthEast event we were very lucky to have Ewan McIntosh as a guest presenter and it was indicative of the esteem in which he and the idea of Teachmeet is held that after his presentation a colleague from another school congratulated Ewan on the idea of Teachmeet with a quite earnest and sincere qualification of: "This is the reason I am still teaching today".

The same teacher Alasdair Douglas was interviewed for a national education supplement and commented: "I was a depressed, run-of-the-mill teacher, working in a rough area, just going through the motions in the classroom and feeling I couldn't go on. Going to Teachmeet switched me back on to teaching -- and I've discovered hundreds of often free online resources, and ideas from which I can pick and choose to switch my pupils back on to learning."

We have been holding Teachmeet NorthEast events for a couple of years now and without fail, the events are always well attended, and I for one always come away with practical ideas on how to improve my own practice. I have learned about Bigg's SOLO taxonomy, which has transformed my own thinking about encouraging higher order thinking

in my students. I have been switched on to the ideas of Ron Berger; critique and redrafting is now an integral part of my teaching toolkit. It was also at a teachmeet that I was first introduced to the work of Graham Nutall from whom I have gained insights into the tacit aspects of learning and am now experimenting with ways to reward and validate unintended and unique learning outcomes. Similarly, reading the literature of David Perkins and Geoff Petty after plugs at Teachmeets has led me to make substantial and profound changes to the design and delivery of our creative arts curriculum at our school to incorporate their respective notions of making student learning more akin to the world of adult work and using evidence based teaching practices in the classroom. Most of all I have been privileged to be amongst and to be inspired by like minded individuals who find time to share practice, and to do it with heart.

One prime example of the reciprocal professional learning that is at the very heart of the Teachmeet movement is in the proliferation of hexagons in classrooms across the UK and the growing consensus that they are better than squares. Perhaps I should explain. At a gathering some time ago my former colleague and expert Teachmeet compare Chris Harte shared an idea that he had read on another teacher, Damien Clarke's blog. The idea was to get students to display relational thinking using SOLO. Originally students had been linking ideas by placing squares containing keywords alongside each other. They were then were asked to explain the link between the words. Damien's idea was simple, to replace the squares with hexagons, thus allowing more links and importantly more complex relations to be laid down on the table. Due to this particular Teachmeet coinciding with our school's national conference there were attendees from schools up and down the country, and more watching online. An ensuing dialogue on twitter documented the experiments that teachers made, and how they had adapted the idea for their own disciplines and context in schools as far flung as Weston-Super-Mare over 300 miles away.

Teachmeet may well be the rock 'n' roll of professional development, and of course as teachers there is an imperative to get the basics right before we can augment our practice with King Stitt and hillbilly lemonade. Much of the content in presentations is based around 'tricks of the trade' that only work when you have a solid pedagogical knowledge and framework upon which you can hang these ideas. In fact, the quality of presentations can be variable, but this reflects the reality that teaching is a messy process that is filled with uncertainty.

If we are to practice what we preach in terms of handing accountability to our students through engagement and innovative 21st century curriculum design, and if we are to be reflective practitioners for whom enquiry and self evaluation is to be a stance, then we must take equal responsibility for own professional development. Teachmeets are a means of constructing collective intelligence and pedagogical knowledge where new networks can be forged and invariably old ones rekindled in a social atmosphere.

Of course Teachmeets are just one mechanism by which teachers can share ideas. That Teachmeet as a brand has become successful is not necessarily due to the structuring of the events, but more in what they ask teachers to give and what they receive in turn. In a UK vista where teachers are feeling increasingly undervalued by politicians, evident in the recent widespread industrial action, there is solidarity to be had in the sharing of values and ideas. We live in a digital age where teachers tweet and students live an increasing proportion of their lives online. There has been no better time for we teachers to take control of our own development. If two heads are better than one then I can not think of a better means of furthering not just our professional development, but our profession as a whole, than by harnessing the potential of our collective commitment and ideas. This might involve creating research or enquiry groups within our schools, or establishing online spaces to meet and share resources for schools across our district areas or beyond. We are best placed to know what would work in our particular context, and to find ways to collaborate for the furthering of our practice.

Indeed it is the organic, emergent and unique nature of each Teachmeet that appeals to those most human and noble of endeavours: those of community construct, sharing and co-authoring narratives and the exposition of passion and inspiration… and of course good food and drink which may or may not include hillbilly lemonade!

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Parker, S (2011). *ICT – All in It Together.* London: Times Educational Suuplement. Available: http://www.tes.co.uk/article.aspx?storycode=6069982.

FURTHER READING AND VIEWING

For more information on Teachmeet, go to:
http://teachmeet.pbworks.com/w/page/19975349/FrontPage

Tait Coles: A teacher from Leeds trying out the idea in Science.
http://www.youtube.com/watch?v=Ixmmr-nncF4
http://taitcoles.wordpress.com/2011/11/12/solo-taxonomy-part-3/

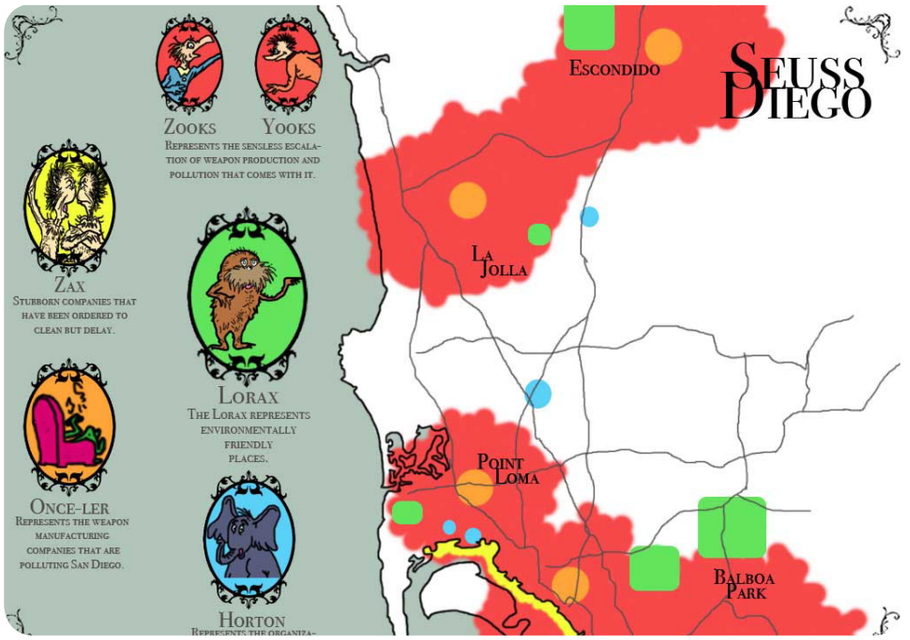
David Didau: A teacher from Weston-Super-Mare using hexagons with Romeo & Juliet in English Literature
http://learningspy.co.uk/2012/01/28/hexagonal-learning/

For more information on why hexagons are better than squares:

Project Gallery

Teachers and Students
High Tech High Schools

In this gallery, we offer a set of *UnBoxed* "cards" that provide quick, concrete glimpses of projects we find inspiring and practices that support teaching and learning. These cards are now freely available on our *UnBoxed* website with additional teacher and student reflections, in a printer-ready format: *http://www.hightechhigh.org/unboxed/cards/*. Simply print, fold, share and discuss. As always, each card on the website refers the reader to a web address where further information is available.



Complexcity

Margaret Noble, Digital Arts & Sound Production
Rachel Nichols, English, HTH Media Arts

Working in pairs, students conducted research and created idiosyncratic maps depicting familiar aspects of San Diego and were challenged to rethink the reality of the built environment around them. They became more invested in their communities because their new knowledge implicated them as involved citizens. By exhibiting their digital maps in multiple venues, students invited their communities to participate in this project of making San Diego a complex city. Students chose an object of study, devised an essential guiding question, and decided how to communicate their findings in words and symbols (maps). They conducted interviews, bringing community members into the process of knowledge production. Later, students participated in several rounds of peer critique and writers' workshops to sharpen the message of each map, clarify the accompanying essays, and articulate a critical thread that would link all the maps together for a coherent and provocative end result.

Student Reflection

My partner and I created a map comparing the number of banks and check-cashing stores in Logan Heights versus Coronado, two communities in San Diego that are separated only by a bridge. We discovered that Coronado has three times the number of banks as Logan Heights does, yet Logan Heights has double the population of Coronado. After plotting the bank locations on our map and seeing the imbalance, we turned to Dr. Natalia Molina, from UCSD, who helped us understand why. In the past, only white people were allowed to buy in places like Coronado, and minorities could only buy in places like Logan Heights. And businesses, like banks, wanted only to build in white neighborhoods. Over time, Coronado was able to build a solid foundation of economic access. Logan Heights was not, because banks and businesses refused to invest in communities of color. In sum, we believe that the banking imbalance seen today and shown on our map is the legacy of the institutional racism and redlining of San Diego's past.

—Victoria Anderson

To learn more visit: *http://margaretnoble.net/educator/complexcity/ & http://rnichols.org/*

The project book of maps and essays is available at:
http://www.blurb.com/bookstore/detail/291829

The Lascaux Cave Project

Gina Drago, Humanities, High Tech Middle Chula Vista

Our Lascaux Cave Project explored the essential question, "What makes us human?" Working in groups of four, 6th grade students researched and recreated different panels within the caves. Students compiled their research on Google Docs, which helped them collaborate on the written portion of this project. They investigated the history of the caves, the lives of the Magdalenian people, the purpose and significance of the paintings, and what it means to be human. In addition to each group's expository writing piece, each student wrote a creative piece from the perspective of a Magdalenian artist. Each group then completed several drafts of the cave panels they were to recreate, eventually recreating the panels on 2' x 4' pieces of wood. To give the cave walls a rock-like appearance, students used insulation foam to create a cavernous texture on the wood. The final exhibition took place in the evening and the classroom was transformed into a dark cave, lit only by the flashlights or lanterns students carried. Students acted as tour guides, leading each tour group around the caves while describing the history and significance of the paintings.

Teacher Reflection

The vision for exhibition night was the driving force. Students were motivated by the presentation element of the exhibition and felt responsible to their audience to learn as much content as possible. One student summed-up the collective feeling of the class, "We really had to know our information, because the people we were talking to didn't know anything about these caves and if we told them something that was wrong, they would believe us and leave thinking it was true!" Students took their responsibility as knowledge-sharers seriously. This was a great lesson in how crucial an authentic audience is for students.

Student Reflection

I enjoyed this project because we got to present our hard work to our principal and other adults. They saw how good we are and they got to see how professional we are in the real world. My favorite part of this project was giving people tours and answering questions.

--Isabella Modelo

To learn more visit: *https://sites.google.com/a/hightechhigh.org/ms-drago-s-dp/*

Immigration Podcasts

Beth DeLuca, Humanities, High Tech Middle North County

Eighth grade humanities students explored historical waves of immigration, focusing on these essential questions: Why do people immigrate to the United States? What challenges have immigrants faced throughout history? How do immigrants navigate between two cultural worlds? Sources included fiction, nonfiction, and guest speakers ranging from United States Border Patrol to Border Angels, a nonprofit organization that helps ensure the safety of undocumented immigrants. We also visited Border Field State Park, on the beach between the U.S.A. and Mexico. In the end, students created Podcasts about the struggles of immigrant groups, past and present.

Teacher Reflection

I think my biggest learning moment from this project was when my students shared their feelings about the disconnect between the United States and Mexico. I don't think they really saw that disconnect until they looked first-hand at the prison-like fence that divides our two nations.

Student Reflection

Near the border, a hawk circles the empty fields that begin San Diego. The scene evokes the loneliness you feel as you walk through the muddy landscape of Friendship Park. Passing over the bridge that separates the mud and the sand, a tower comes into sight. The border fence, made of tall metal rods, radiates feelings of sadness. When the talks begin, I dive deep into my thoughts. The presenter says that those who only want to start a better life end up deported, back where they started. They have even less money from paying their smugglers. How can people be so cruel as to divide people through a fence? In the early 1970s, when the park was established, did anyone think to split it down the property line? What was it like then? And what would have become of the park, and America, if not only this border, but all borders, were destroyed? I look back on the fence, and hear voices of migrants. "Hurry," they would say, "Almost there." Who would know if I walked among migrants searching for the American Dream? Who would know if they found it?

—Shea Saulino

To learn more visit: *https://sites.google.com/a/hightechhigh.org/ms-deluca-s-8th-grade-humanities-class/*

Moral Courage Project

Deanna Driscoll, Drama, High Tech Middle

In this project my middle school students go on a self-exploration journey through original poems and stories, studying the civil rights movement, bullying and cyber bullying, and the bystander effect. They create personal shoe art to represent who they are as a person. Through these exercises they begin to get a sense of their own power to change things simply by standing up for what they believe. In the end, they demonstrate their understanding of moral courage and historical events by writing and performing original moral courage plays for the community.

Teacher Reflection

My students have lots of questions and contributions to make when it comes to the concept of moral courage. Their ability to share who they are, what they fear, what they believe, the things they wonder about, and their own level of moral courage is astonishing to me. The thing that made me the proudest was the fact that there were situations happening in school during this project where several of my students made the deliberate choice to share their moral courage with others and change a situation simply by speaking up for what was right.

Student Reflections

I learned how one person standing up for someone or something they believe in can really make a difference. Also, being a moral bystander is as bad as being a bully, because you are basically telling the bully that what they are doing is okay with you. . After studying the effects of bullying we learned more about moral courage by writing our own "All About Me" book in which we shared original poems and monologues and answered a series of questions that helped us understand more about who we really are.

—Liz Egler

In the Moral Courage Project we learned how to find the bravery in us as we grow and not to doubt ourselves and our own level of moral courage.

—Emily Olmeda-Smith

To learn more visit: *https://sites.google.com/a/hightechhigh.org/deanna-driscoll-dp/*

Staff Class to the Past

Cady Staff, Humanities, High Tech Middle Chula Vista

Have you ever wanted to go back in time to meet someone from the past? Fifty-six eighth graders at High Tech Middle Chula Vista had the opportunity to do just that. First, we had a Socratic Seminar to determine the sixteen most significant events in U.S. history. Students then grouped themselves by events that interested them. Within groups, each student chose a historical figure and researched his or her life. Then, we "constructed" a wormhole to travel back in time (via time-traveling bus) to experience our chosen events firsthand. Students wrote multiple drafts to document their mind-blowing adventures throughout U.S. history. The result was a 164-page published book full of time-traveling escapades. The 8th graders also created an exhibition for elementary students where the younger kids boarded a cardboard bus, crawled through a wormhole and emerged on the other side to meet 8th graders dressed up as their historical figures.

Student Reflection

What inspired us to write a book about time travel? On a Monday morning our humanities teacher, Ms. Staff, came into class more excited than usual. She began to explain a dream she had over the weekend. In her dream, the entire eighth grade class went back in time with her to visit the 16 most important events in U.S. history. At first we thought she was kidding; then we realized she was serious! She was serious about making this our next history project. Thus, the time travelling began. We split into groups and chose our important events in history. Through careful and deliberate research, each person in the group wrote a vignette about their "experience" with an important historical character from the past. We put them all together and... Voila! Our book was ready. Ready for editing that is. We spent countless hours re-reading and editing, looking for grammatical errors, accuracy and clarity. Each one of us read and edited rough drafts countless times before we felt it was perfect.

Kyla Getzel, Phyllis Kuroda Crawford, Juan Sánchez, Nayeli Diez de Bonilla, Alexis Azhocar and Jessica Guevara

(Excerpt from Staff Class to the Past Student Editors' Introduction)

To learn more visit: *http://blogs.hightechhigh.org/cstaff/*
Link to published book: *http://www.blurb.com/my/book/detail/3005982*

Self Portrait Relief Print: Patterns of our Existence and Beyond

Meredith Frederick, Art, High Tech Middle Chula Vista

Patterns of our Existence and Beyond was inspired by Dia de los Muertos, a Mexican holiday that came from an Aztec tradition, which takes place on November 1st. This holiday, the Day of the Dead, focuses on the celebration of life as well as remembering and rejoicing the lives of the ones we have lost. For this project, students thought about why and how certain people leave an impression on our lives. We also brainstormed characteristics, attributes, and achievements we would like to be remembered for, and known for now and in the future. Each student then created a symbolic self-portrait by taking a picture of themselves and compiling found images of the characteristics they brainstormed using Adobe Photoshop. We transferred this design to a foam block, carved it out, and printed it on heavyweight paper. The final products were amazing relief prints that symbolically represented our own Patterns of Existence and Beyond.

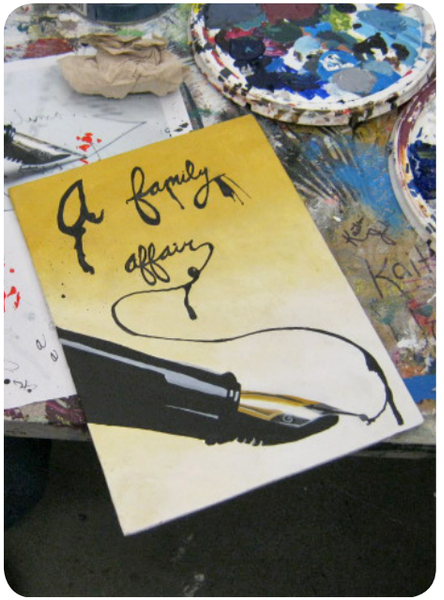
Student Reflection

What I want to be known for and remembered by is my love for my family, my music and talent, and my happiness. I want to be known for and remembered as a person who tried to achieve and succeed, someone who loved people, and as a person who left their mark on our world. The imagery I included in my print represents these attributes. The message that I wanted to communicate to my audience was that no one is the same. Everyone has their own circles of life. Why circles? Circles are whole, and never ending. This represents my pride in myself, and everyone around me. The circle of my life represents everything important to me. My Circles of Life represent me, myself, and I.

There are lots of things that I enjoyed about this process including the hands on work and learning about symbolism. I would love to have the opportunity to do it again! I liked how our class worked together to help each other with the print and carving process and the feel of being in Art class, in general, was memorable.

--Alexa Gil, 7th grade

To learn more visit: *https://sites.google.com/a/hightechhigh.org/ms-frederick-s-dp/home*



Mystery Code Project

Nicole Hubbard, High Tech High International
Pam Baker, High Tech High International
Jeremy Farson, High tech High International

The Mystery Code Project was a collaboration between 11th grade English, math, and art classes. In English class, students read detective fiction by authors such as Edgar Allen Poe, Sherlock Holmes, and Dan Brown and then wrote their own stories using math codes as part of the solution to the mystery. Students were put into peer editing groups and used googledocs to give and get feedback from their peers during the composition and revision process. In math, students used backwards planning sheets and peer revision to create the codes and mathematical references for their stories, which included matrix encryption, function notation with symbols, shift ciphers, counting principles and "cryptarithmetic." In art class, students created cover art for their stories. The art and stories, along with hyperlinks to a "how they solved it" section showing the math workbehind the codes, are published on our project website. Finally, as part of exhibition night, each group chose one story to record in the style of an old time radio show, complete with sound effects.

Teacher Reflection

There were several things I loved about this project. First, although many students struggled to smoothly and authentically incorporate the math codes into their stories, through the extensive feedback and revision process and with the help of their peers, they all ended up with something they felt proud of. This project pushed them beyond what they thought they were capable of. Second, students were passionate about their stories and their characters, many of them going beyond the required page limit in their development of characters who became real people to them, with real personalities and quirks.

Student Reflection

I loved writing the story! I've always enjoyed creative writing and this was a great opportunity to work on that. Incorporating the math was hard but I am so proud of my complete story and art!

--Ashlen Sepulveda

To learn more about this project go to: *https://sites.google.com/a/hightechhigh.org/rejectsportycomedy2012/home*

Wild About Cramlington

Darren Mead
Cramlington Learning Village, UK

Plan, prepare, and let the project lead the learning

It is 7 am and I'm climbing a tree on the school campus with a bird feeder clenched between my teeth. It's the final bit of preparation for the "Wild about Cramlington" project, part of a weeklong sustainability experience for our 400 Year 9 students.

Today, I want the 28 students I am working with to experience just enough failure to act and think in a way different from the normal school day. I know that this is a balancing act, and that they must see enough birdlife to stimulate their interest for the rest of the week. Above all I want the project to lead the learning, not me. Hence the bird feeder and my compromised position in a rather too thorny tree.

In class that morning we examine some professionally produced wildlife guides from local nature reserves, along with one I have prepared on Cramlington. These models help establish not only the content and expected quality of our final product, but also the direction of the project. Together, we watch video on how to "birdwatch," giving

invaluable tips on how to see and identify birds. This is tacit knowledge that the students will have to acquire through experience as they begin to apply it. So I've set up a little exercise that will allow them to fail in safety and not jeopardize the overall success of the project.

The 28 nascent birdwatchers, armed with field guides and shared binoculars, venture out to spot birds. Unsurprisingly, what I then witness are not skilled ornithologists, but a bunch of teenagers parading around the school campus. I gallop around the grounds, suppressing my frustration, asking what they have seen, and pointing out things of interest. On reconvening I ask how many types of birds each group has seen. "Four" one group cries. "Can anyone beat four?" I challenge. "Yes, we can," says one group—"six!" It is becoming evident that they have not been successful.

I respond quietly, "I saw 19 different birds and two species of butterfly. How did I manage to do this?" After a brief silence they correctly identify that I knew what to look for, where to look, and then comes a revelation. "Sir, you followed those tips, didn't you?" "Er, yes. Yes I did. Can you remember what they were?" Immediately, the students name every single one. After all, regurgitation is easy, but putting knowledge into practice is the difficult challenge. But now they know why the early guidance was important.

The next day we leave the campus and visit a local nature reserve. The difference in the students is palpable. The hushed conversations, the pointing to trees, the pauses and scanning of the horizon and most importantly the "What's that sir?" questions, all indicate that the students have engaged with the project. On return each student has seen at least 20 different species of bird. One student saw six species of butterfly, and could not believe how much fun this was. She had taken lots of photographs and was distraught to find that they had not saved correctly. She determined to return that night to retake some pictures. And that night, she did so.

Working with experts

I have huge passion for birdwatching, stemming from my childhood and its current resurgence since the birth of my son. However, I am not an expert. From the very outset of this project I collaborated with two local birdwatchers to plan locations to visit and the role they could play during the week. Their knowledgeable input and genuine interest in the subject matter was invaluable, but their presence communicated a more important message: this is not a teacher led project; the project is important in itself; what you learn in school is important to the wider community; there are reasons you can be proud of your local town. There is no way I could even contemplate "teaching" these lessons.

Critique and drafting: a turning point

At the end of each day the students recorded their observations and began to write species descriptions of the growing list of birds seen. We now had something we could critique and redraft, another new experience for us. This was to prove difficult, as we had only been together as group for a short time. We were not yet a community, and were therefore unable to share honest and critical feedback about our work. The feedback norms helped, but I had to remain resolute in the expectations that had been established by scrutinising the professionally produced guides. However, we did manage to construct a model for the species descriptions. At the time it felt like an overlong 30 minutes, but with hindsight it was a turning point of the project. Students now saw drafting as a way we could be successful in our project, and the model species description provided a valuable reference for their work. To help the students see their progress, I asked them to allow me to keep each draft.

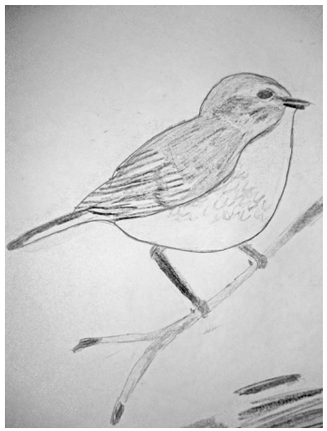
It quickly became evident that the quality of photographs we needed was beyond this project, but a solution quickly appeared. Many students had naturally sketched the birds as they researched details on each species. The group decided that the guide would have artwork by the students to help readers identify local birds. It was this decision that led to the defining moment for me during our first foray into project-based learning.

One student showed me a picture she had drawn of a willow warbler. It was a pretty picture, reminding me of Victorian needlework, but it did not look much like a willow warbler. Together we came up with three improvements; the shape of the tail, its body shape and colouration of its plumage. She returned the next day with an improved version

and the question, “What do you think?” Clearly the body shape and tail were much better, but the colouration and the head shape were not helpful to its identification. I gathered two other students and we critiqued again. Although I suspected disappointment in being asked to improve her work again, she never showed it. I guess (and hope) that she understood that we had changed the rules, and in doing so her best just got better. I’m sure she was nervous the next morning, when she approached me with her next draft. It was great. It looked like a willow warbler. I asked if it was okay to show the class her three drafts, to which she shyly assented. I proudly gathered the class not only to show a beautiful piece of work, but the progress between drafts and, most important, the paradigm shift taking place. The students were impressed and said so.

Draft 1

Draft 3



Draft 2

The final picture was great not because the student was a talented artist, but because she embraced the challenge, learned from criticism and was willing to make the effort needed to practice the skills necessary for success. Being able to show the end product and process at the same time gives learning a coherence and accessibility that is otherwise hard to communicate.

Over the final days students readily offered their work for critique, reworked drafts, switched groups to support large tasks, and offered honest, considered feedback. We even had conversations about the migration of the whitethroat. They were thrilled that a bird would travel so far to spend summer in their town. However, this was not a perfect group of students, nor was it a perfect project. They required frequent prompting, task setting and structuring and some timely behaviour management to keep all engaged and contributing. For much of the time I acted as a traditional teacher first and project manager second. We still have much to learn.

Learning from student debriefs

As deadline after deadline slipped through our fingers, I must confess to slightly neglecting the debriefing process, although not entirely. The students were asked to create a display to share the process used in the completion of their “Wild about Cramlington” project. This was an essential task not only for the development of the student learner attributes and skills, but also for my learning. In the midst of this project I often lost sight of these, being consumed by the day-to-day management of getting the job done. I had the feeling that the project had certainly led student learning, but I had managed the project and many of the individual students. I needed to see if the project had influenced how they approached work, in particular critiquing and drafting.

Many of the displays confirmed my suspicions that drafting could be frustrating, but I was thrilled to see the overwhelmingly positive view. Students could see the improvements, and they enjoyed making progress. Most significant was feeling that they were proud of their effort and of the final product. In an education system that is obsessed by covering a curriculum, the opportunity for young people to be proud of their learning is too rare.

The value of exhibition

I was also grateful for the annual exhibition day coming up at the weekend, and the reciprocity an audience brings. Having two thousand people visit to see your work says that school work matters, while the chance to show that you have learned something worthwhile adds purpose and value to your efforts. It is also a chance to show that you care about education and wider issues, and that you are part of community. It is education not done for you, nor done to you, but done with you and by you. My students express it well:

—We drafted our work [several] times so we could get a quality product we would be proud of!
—Having to redraft felt good as I always knew what I had to improve in next draft.
—[The guide] shows others our understanding and widens it.
—Living in a busy area we need to get away and see the wildlife we have in our community.
—We should take pride in what birds we have on our doorstep.

The author expresses his thanks for the kind contributions of Phil Allott and Cain Scrimegour, our bird experts.

An Interesting Correlation: Mathematics Instruction and Social Issues

Bryan Meyer
High Tech High North Coumty

Our school has an Advisory class twice a week. Part of being a student's advisor is that you complete a home visit early in the year to see what the home life is like and to establish a connection with the student's parents/guardians. Having recently completed home visits for my advisees, I was reminded of and stunned by the clear relationship between a student's family life and their success in school. There are so many factors outside of a student's intelligence that contribute to their opportunities (or hindrances) for success in school. Sadly, I think many of our students fail to recognize these external factors and, as a result, attribute any lack of success to their own intelligence and self-worth. I wanted to do something in my class to expose my students to this issue and to have them make connections to its importance for equity in our society.

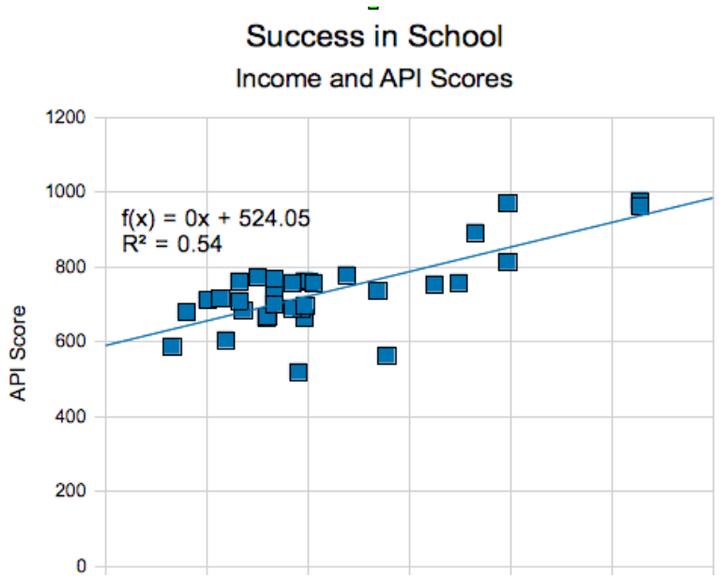
The Lesson

I teach 11th Grade Math and, even though the issue I decided to pursue was raised through my interactions with advisees and their

parents, I decided that my content class would be the best place to tackle the issue. I should note that this lesson was not used as a way to "teach" or introduce a concept but, rather, as a way to show students the power and relevancy of what we have been studying. We have been studying scatterplots, regression, and correlation analysis. The beauty of this mathematical tool is that it allows you to look at the strength of a relationship between two variables (not necessarily a causal relationship). I decided to plan a lesson that allowed my students to look at the relationship between socio-economic status and success in school.

At first, I was concerned that the lesson I had in mind had the potential to reinforce certain stereotypes that may exist in the minds of some students. My concern was that students might quickly respond to the correlation between socio-economic status and success in school with, "those students just aren't trying hard enough." In an attempt to be proactive about this, I added a journal prompt at the start of the lesson that addressed this misconception. I asked students to answer the prompt, "do you think anybody WANTS to fail in school? What would cause somebody to fail or become unmotivated?" Before we even started the lesson, we had established that everybody wants to succeed and that there are a variety of factors that can cause a student to lose confidence and motivation.

Next, I presented students with a Google Spreadsheet containing the names of various schools in San Diego County. Each student was responsible for finding the zip code of two schools, the average household income of that zip code, and the API score for that school. Then, we exported the data and completed a correlation study to look at the relationship. The resulting scatterplot and line of best fit is below:



The r-squared coefficient of 0.54 indicates a moderately strong relationship between "average household income" and "API score." Although we did discuss the mathematics and the limitations of the metrics with which we measured "income" and "success," the more meaningful discussion was in relation to the social implications. Some of the questions I asked students were:

1. WHY do you think this relationship exists?
2. What does a school need to provide in order for students to be successful? How does income affect that?
3. Does a student born into a family with avg. income $40,000 have the same opportunity as a student born into a family with avg. income $100,000?
4. What are the implications of this for our society as a whole? Is this equitable/fair?

We discussed why this trend existed, how the mathematics helped us explain/understand the trend, and whether or not 'we' (government, individuals, schools, etc.) should be doing anything to help counterbalance the inequity that was clearly present.

The Outcome

At the end of our discussion, I asked students to respond, in writing, to a journal prompt that read, "Why do you think the relationship between income and success in school exists? How has this activity changed your perspective on equity in our society (if at all)?" Here is a selection of student responses:

"This has changed my perspective because, even though I know that sometimes low income areas have lower test scores, it makes sense that its not just because of a lack of motivation, but because of a lack of opportunity."

"I really didn't notice how the trend worked until I saw it on a graph."

"We don't live in a land of equal opportunity."

"I feel this relationship exists because families with a greater income will move to areas where schools are performing better."

"I see evidence for it. So, yeah, there is a relationship and I think its unhealthy and we need to break it up."

The Reflection

Ultimately, I felt that this lesson was not only a success, but more important, of some value for the students beyond the classroom. Although it may not have changed anybody's life, it definitely opened (or, for some students, continued) an important discussion about success in school and the unseen forces that perpetuate racial/economic inequity in society. In reflecting on completing this assignment, I realized:

We should use our content as a medium for rich discussion
I easily could have accomplished my content goals for this lesson by just doing a correlation study on 'height and shoe size' or something equally as trivial. Instead, students were exposed to the content in a much more meaningful way. This assignment was a reminder to use math as a way to have meaningful discussion and address important issues in our school community and greater society. We need to remember that math class should be about much more than a transfer of sterile facts and formulas from teacher (or computer) to student. It should be about thinking, understanding, and connecting.

We all need to give students credit
I was hesitant to bring such a 'loaded' topic to the classroom because I was afraid of the maturity with which students would handle it. As always, they proved themselves to be more than capable of having a respectful, open-minded discussion. We shouldn't shy away from important (and sometimes difficult) conversations with kids. For some, school may be the only place they get it.

Less talk, more action
I enjoy talking about equity issues with colleagues, but it felt better to DO something about it. We are so fortunate to have a profession that allows us to expose young adults to important topics and encourage them to take action towards improving our society. We should use every opportunity to do just that.

To learn more about Bryan's work, visit his digital portfolio at: http://growingdendrites.weebly.com/

On the Trail of the Literacy Campaign: an Internship in Cuba

Timoteo Delgado
High Tech High

Once you learn to read, you will forever be free.
—Frederick Douglass

As I sit in a small living room, an elderly woman details her experiences fifty years ago. She was seventeen, her country had just experienced a revolution, and drawn up in the spirit, she volunteered to join Cuba's literacy campaign. I can hear cars driving by and kids yelling on the street below us; hopefully the microphones won't pick up the noise. Her Cuban accent slurs some words and she is sometimes hard to follow, but her stories are captivating. I am told about a defining experience in her life, a point of realization and discovery. With thousands of other teenagers, she learned what it was like to transform a country for the better.

Juniors at High Tech High are required to complete a three-week internship at the end of the academic year. To expand my internship experience beyond the typical workspace, I searched for options outside of the United States. Traveling to Cuba was particularly intriguing to me, as its government and economy are in a transitional state. Luckily,

I had a contact to Catherine Murphy, who directs the Literacy Project (http://www.theliteracyproject.org/english/projects.html). The project documents various literacy campaigns by making documentaries and archiving oral histories. The project originally focused on Cuba's literacy campaign, which served as a model for similar campaigns in other countries throughout Latin America.

As an intern I had the privilege of participating in collecting oral histories about Cuba's literacy campaign of 1961. Fifty years ago, following the revolution, more than 100,000 students from the cities volunteered as brigadistas in the campaign; most of them were 12 to 19 years old and over half were women. The students were loaded up into trucks and driven to the countryside. For many months these dedicated teenagers lived with impoverished families, teaching them how to read and write.

During my stay in Havana, I lived with the godson of my father's friend, Osciel (a 20-year-old nurse) and his older brother Lester. Their apartment was in a beautiful but deteriorating Spanish building. My annual travels to El Salvador and other Latin American countries had accustomed me to a limited standard of living. I ate a dinner of mostly beans and rice every night at Osciel's parents' house. Despite the limited menu, the family was incredibly warm and hospitable, sharing what little they had.

My main task was to locate brigadistas and their former students and to interview them. Cubans tend to be highly sociable, so finding people who were involved in the Literacy Campaign was not a problem. Osciel's mother helped me find brigadistas and Catherine Murphy had arranged for Norma, one of the central figures in the documentary Maestra, to connect me with other former teachers. Norma had been a brigadista as a teenager, and is now a retired psychologist. She has a dynamic personality and a striking collection of hats. She also has a broad network in the Afro-Cuban community of Havana, where I lived and did most of my work. Overall I interviewed 14 people—12 former teachers and two former students.

What was most compelling to me about the interviews, and was universal to all of them, was the teachers' sheer dedication to improving the living situation of their fellow Cubans and their country as a whole. Members of the Juventud Rebelde, the revolutionary youth organization that the new government sets up, were encouraged to volunteer. "I wanted to help spread literacy because it was something the country needed," said Angelica Martiz. Despite all obstacles, the brigadistas were determined to uphold the revolutionary spirit that had swept their country. This campaign was one of the first major acts of the new government that transitioned its military revolution to a social one, in order to bring about unity, equality and change.

The country was still stabilizing at that time, and the brigadistas faced danger. One brigadista I interviewed described how she had received a letter from an anti-revolutionary group threatening her life. She knew of another literacy teacher who had been killed earlier that year and took the threat seriously. Her supervisors advised her to go home, but she refused. The government then issued her a gun for self-protection. The interviewees routinely recounted incidents that revealed the depth of their determination.

The young brigadistas traveled far from home to spread literacy. The campaign lasted for ten months, and during that time the volunteers lived with families in the countryside, a life they had little or no previous conception of. To travel from the city to the countryside at that time for Cubans would be the equivalent of Americans going to work in developing countries today. The brigadistas explained that "where we were there was not potable water, there was not light, there were not sanitary services." But beyond that, "there were no schools, there were no hospitals, there were no social services." The volunteers

witnessed first hand what had incited the revolution.

During the day the volunteers helped their students with agricultural work or explored the area, but in the afternoon they taught. As one volunteer described, "At first they [the peasants] were reluctant, afraid that it would be too difficult an accomplishment. It took a little bit of work and we had to gradually build their confidence in us. They realized how important this was for them. I started out teaching one or two; when others saw them learning it turned into then three or four, and then ten, and then twenty until I had a huge group of people to tutor." People who once did not know how to write their name and had to sign documents they could not read with a fingerprint, were soon capable of basic reading and writing. Students reported that for peasants who relied on buying and selling goods for a living, literacy brought new leverage to their interactions as they could more competently negotiate and make agreements. It also allowed the peasants to organize as a community.

Cuba's campaign also played a pivotal role for women in society. Women in Cuba, especially in comparison to other Latin American countries, play an incredibly active role in society and government. Brigadistas reported that they became much more independent and self-confident because of their months in the campaign. This was particularly significant as most of the brigadistas, and most of my interviewees, were women. Parents were often reluctant to let their children go, but especially their daughters, as women had been more protected. The experience not only meant that their parents gave them more freedom, but changed the way they saw themselves and what they felt they were capable of.

The brigadistas drew strength from their experience but perhaps even more from the relationships they forged. I interviewed three brigadistas together; they had trained together fifty years earlier and were still close friends. They met at the famous beach resort Varedero, which the government had turned into a training facility for the brigadistas. They went to the same area of the country, the Sierra Maestra, although they were many miles apart and so could not see each other often. However, every once in a while they made the trek and bonded over their experience, a bond which was still very evident 50 years later as they laughed together during the interview.

Cuba's literacy campaign served not only to unite brigadistas with each other, but was also a way to unite the country after the revolution. One brigadista explained to me how she "confronted a reality that she did not know existed." For her, the campaign brought a consciousness of the difficulties that peasants were facing. Another teacher recounted that the fact that homework had to be done by candlelight was a blow, but it "taught me to help people, so that things would get better, so that in an era ahead people could have another kind of life." The brigadistas lived among the peasants as family, each group bringing a component of their culture and lifestyle to the other.

Just as the people I interviewed described finding independence, human kindness and fulfillment in their stint in the countryside, I felt echoes of their experience in my time in Cuba. Although I cannot truly compare my few weeks in Havana (with a phone line to home), to their many months in the countryside, I was also living in a very different place—with more limited comforts, hygiene and diet than I was used to—and finding that strangers were warm and welcoming and that those new found relationships were what made the experience life changing. The experiences of the brigadistas and my own experience also made me acutely aware of the power of education beyond the classroom.

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Why Do We Need To Learn This?

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The town I grew up in was 99% Scandinavian American. I was in the minority because my family was Irish American. There was a small community of Mexicans that lived across the railroad tracks and one family that was black (a professor from Eritrea was teaching at a local college). With that background, when I started teaching at the third largest and third worst school in New York City, I was completely unprepared for the diversity and angst of an urban classroom. I went into the classroom thinking that I would be a teacher; I would lecture, read aloud from books, grade multiple choice tests, take field trips to plays, and write recommendation letters. I had an idea of what it meant to be a teacher and I fit that vision with my glasses, ill-fitting pantsuits, and love of reading.

I never felt so out of place in my entire life. During the summer before my first year of teaching, I read a book by bell hooks and was convinced that I was not equipped or worthy of teaching students from a different background than my own. And to an extent, I was right. The students came from 130 different countries. I couldn't understand the students

from Jamaica or Guyana. I was supposed to teach ESL History, and not one of the students understood any English (and I did not speak any of the 15 languages they spoke). Fights broke out in my classroom every day. A security guard took pity on me and stood close to my door at all times, knowing I would need assistance at some point. Each day was a struggle to survive.

One afternoon, right before holiday break, with only four students in my classroom out of 35 on my attendance list, I was trying to "teach" about the French Revolution when Leroy (not his real name), a 16-year-old freshman, stood up, interrupted my lecture about the Tennis Court Oath, and said, "Who the f--k cares what these guys did on some tennis court? Why do I need to know this sh-t? It's not even real."

While abrasive, Leroy came to school almost every day. He did not always come into the classroom, but he was always patrolling the hallways. He wore blue and white beads around his wrists and neck, which meant he was a member of the Crips gang. We had a tumultuous relationship. Some days were better than others. On the "good" days he would come into class, not look at me and put his head down on the desk. On the "bad" days he would saunter in 20 minutes late, smirk and glare at me while sitting in the back of the room. While a few students took pity on me and laughed at some of my lame jokes or smiled when I tried to engage them in conversation, for the most part I was alone in the classroom and Leroy's blatant hostility challenged my belief that I was doing the best I could.

As I contemplated his question and tried to decide whether I should call security, I couldn't help but feel...embarrassed. I was wasting his time. He was right. Why should he care? Why does he need to know this part of history? I remember that I sat down at my desk and shrugged, "Good question Leroy." He threw himself back into his chair, hissed and cursed about the class under his breath.

Over the holiday break, as my family and friends inquired about my new profession, Leroy's outburst kept replaying in my mind. After much contemplation and discussion, I realized that Leroy and I actually agreed on one thing: school sucks. When I was in high school, I too hated most of my classes, albeit it was a quiet hatred. I despised some of the classes because of their complete disregard for practicality. No one ever told me why I needed the information they were forcing me to memorize and regurgitate on a multiple-choice test. And then it hit me, the class I most disliked was history because of its glaring irrelevance and mind-numbing lectures. Of course Leroy hated me; I hated me (well, me as the teacher I thought I was supposed to be). What got me through high school was the college-bound culture in my community. I knew that getting into college far away from home was my only ticket out of the mundane. But what kept Leroy coming to school? What was he trying to escape? He didn't seem to have dreams of going to college—or maybe he did. What did I actually know about Leroy? The realization that not only did I not know this student, but also that I did not even make any attempts to try to know him, struck me at my core. If when I was his age I wanted something useful, something I could see the importance in, something I could feel, why shouldn't he want the same thing? Why did he need to know this history? Why was I teaching it?

Leroy's blatant assertion forced me to reevaluate what I was doing. I went back to my curriculum and my lesson plans looking for a hook, something that brought the historical issues to their core. When I got back to school, I decided to give the French Revolution one more chance. It was actually a really exciting part of history, not just for its Enlightenment ideals and fight for freedom, but because it was a blueprint for so many stories in history: people struggling to survive and succeeding. I started my next lesson with a single question: "What would you die for?" Who knows why, but Leroy came to class that day. He read the question aloud and gawked. "What would I die for? Sh*t. My mom." I asked him why and he went on a five-minute tirade about all of the reasons why and from whom his mom deserved protecting. But he couldn't protect her at that moment because she was in prison. We spent the entire period discussing what we would die for and why. Other students shared their stories and explanations. Many said they would die trying to get food or money for their families, others said there is nothing they would die for except their own safety. Leroy's expression during class was one of interest in what others were saying. He leaned in when a quiet girl gave her opinion and challenged another student when they said they would die for no one. He didn't seem so angry. I started planning my lessons thinking about whether they would make Leroy lean in to listen or aggressively challenge me.

I changed my focus from spouting facts to making a concerted effort to connect all of the content necessary for the state exam to useful information, or at the very least, emotions and situations to which the students could relate. Trying to find the heart of the subject matter that could connect everyone became the goal of each lesson.

While some days were better than others and Leroy still came in late or not at all, I held on to the times when he did attend class and seemed more engaged. He became my gauge for whether something was working or not. Part of it was the fear that he would call me out again but part of it was a feeling that if I could engage him, I could hook any of my students. As a follow up lesson to the "what would we die for" conversation, the students made protest posters from the point of view of the various estates. Leroy chose the women marching to Versailles demanding bread. He connected the historical event to his mother trying to do what was right for him and his siblings. I didn't inquire further about his family but through this activity I was able to get a glimpse of his life. Understanding where students come from is perhaps more important than anything else one can do in the classroom. It was not until years later that I felt comfortable asking students follow-up questions to help me understand their situations.

Leroy's frustration was the turning point for me as a "teacher." I stopped trying to be the teacher I thought I was supposed to be, and started being the teacher I wished I had had in high school. It took another year before I felt comfortable really opening up to my students and having them open up to me.

It is something I am still working on. But Leroy helped me realize that my students' experiences were richer than many of the stories in history, and that through their experiences we can try to understand the decisions that were made in history. I started asking them about their lives, their opinions, and their experiences to get ideas for how to engage them in history. I organized discussions that would challenge their stereotypes and broaden their understandings. And I always participated in the activities, because, quite frankly, I needed to learn too. I knew very little about what it was like to live in a homeless shelter, or with family members in prison, or gangs dictating schedules for walking down the streets. It was a giant learning curve and one that was riddled with bumps and uncomfortable situations. Fights still broke out and classroom management was dicey, but I realized I was more comfortable when the students were talking and I was asking questions, making historical connections, as opposed to lecturing and dictating the direction of the class.

For the last seven years, Leroy's question has guided my teaching practice. I try very hard not to waste anyone's time. While I still struggle with the question "Why do we need to know this?" I feel that it keeps me grounded. It keeps me questioning my motives and intentions in the classroom.

It took quite a while (a year) but eventually I found out why Leroy came to school: it helped kill the time. He had a girlfriend that wanted to go to college so he showed up to class or he followed her to her classes. He could get a free lunch and hook up with a few friends. As a side note, Leroy was in another one of my history classes a year later. Through a few class discussions he showed a deep interest and a passion for understanding world events. I had started a Model United Nations class that was doubling as a world history class. Model UN is a club in which students represent different countries and debate international issues while trying to find resolutions to these global problems. Since Leroy had failed one course of world history, I convinced him to take Model UN instead of a regular history class. While at first he was apprehensive and a bit crass, his passion for justice made him a remarkable participant and the other students modeled diplomatic discourse. Through our club's field trips, he challenged ambassadors from Palau, Vietnam, and South Africa on their policy decisions and exchanged bullet wound stories with a Lost Boy from Sudan. I never felt the need to apologize to others for his assertive line of questioning because it was his questions (and anger) that helped me figure out what was important. At the very least these diplomats would benefit, however briefly, from seeing life through Leroy's eyes and hearing his demand to keep it real and applicable.

To learn more about Kali's work, visit her digital portfolio at: https://sites.google.com/a/hightechhigh.org/ms-kali-frederick/

Can Games Help Us Build a Better Reality?

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A review of *Reality is Broken: Why Games Make Us Better and How They Can Change the World*, by Jane McGonigal

I was not a video gamer as a kid. Gaming was something my older brother did, holed up in the basement with a Commodore 64 and an Impossible Mission game cartridge. I never really saw the point; it seemed like a waste of time.

This perception of gaming as a pointless waste of time persists into our 21st century. Despite the exponential digitizing of all aspects of our lives, spending a few hours playing World of Warcraft has not acquired the cultural acceptability of time spent playing traditional games like Scrabble or Monopoly. According to Jane McGonigal, Director of Game Research and Development at the Institute for the Future in Palo Alto, California, 97% of boys under 18 play video games and 94% of girls. There are five million gamers spending more than 40 hours a week playing video games. For many people with an interest in the development of youth, and for those concerned with the impact of video games on society in general, these numbers are alarming. They represent both a symptom of and a pathway to the degradation of intellectual thought, social progress, and civilized society as a whole.

Are Games Really That Bad For You?

McGonigal hopes to change that perception with her first book, *Reality is Broken: Why Games Make Us Better and How They Can Change the World*. She joins other prominent game scholars (James Paul Gee, Katie Salen, David Williamson Shaffer, among others) who argue that games have a beneficial effect on players, despite the long-standing, mainstream belief that video gaming "rots the brain", i.e. does not provide the intellectual and social stimulation young people need to grow up healthy and contribute positively to society.

McGonigal's thesis, however, is bolder than her peers'. She not only seeks to augment understanding of the benefits of video gaming, she strives to counter our culture's resistance to playing more games rather than fewer. It's not gaming that's the problem, it's reality. Our current reality, she argues, is broken. Reality is boring. Reality is enervating. Reality constrains. If we are not careful, our students and employees will continue to be drawn to games in lieu of committing themselves to the requisite activities of schools and workplaces. Unfortunately, these formally sanctioned spaces of labor are rarely characterized by the "hard fun" games offer the breakdown of society is occurring in reality, not in video games.

McGonigal proffers a series of "fixes" she believes are the key to unleashing the power of video gaming to improve society. When I began reading Reality is Broken, I was expecting a review of contemporary social, environmental, and political change-themed games like those profiled by Games for Change, an organization that promotes the creation and distribution of games with "serious" themes (They profile many of these games on their website www.gamesforchange.org). As much as I enjoy exploring Games for Change, I have been somewhat skeptical that playing a game can engender in a player the urge to take civic action.

McGonigal's arguments, however, led my thinking down a different path. Video games bolster habits of mind, social interaction, motivation, and attitudinal outlooks that have the potential to significantly impact

the world in an positive way. In fact, McGonigal is so optimistic about the salutary effects of gaming on gamers and culture at large that she truly does believe that gaming can change the world.

Good Games

McGonigal arranges her arguments by first defining a good game and then through her analyses of numerous game examples that conform to this definition. Her discussion reveals the themes to which she attaches her hopes. A good game is characterized by goal, rules, a feedback system, and voluntary participation. A goal offers a sense of purpose, rules make us creative, a feedback system offers a promise that the goal is achievable. Finally, voluntary participation relieves the stress of the competitive environment and provides the motivation to keep playing. Within the frames of that definition, McGonigal elucidates the four major characteristics of games that reality needs to adopt.

Productive Work

A good game's impact does not stem from its particular content, according to McGonigal. Some games are educational, yes, in the sense that they provide substantive, concrete content with which a player can engage (Sid Meier's Civilization for example). Rather, good games teach us how to work hard. This is difficulty, however, that we voluntarily sign up for. The concept of agreeing to take on difficult work is one she sees as lacking in today's schools and workplaces. McGonigal frequently turns Mihály Csíkszentmihályi and his conceptualization of "flow" to reinforce her arguments: "Nothing makes us happier than good, hard work." What are gamers getting good at if they are spending so many hours gaming, McGonigal asks. They are getting good at "good, hard work."

She turns to World of Warcraft as an example of a game where there is no unemployment and there are endless increasingly challenging jobs to tackle. Part of the goal, as a World of Warcraft player, is specifically to reach the opportunity to take on more difficult work. McGonigal describes the game as engaging its players in a "blissful state of productivity." Even casual games, the ones we play in 15 minutes or less (Minesweeper, Bejeweled, Angry Birds), can give us the same satisfying rush of being engaged in something productive, particularly if the current environment in which we work or study does not provide opportunities for voluntary engagement with challenging work.

Fun Failure and Odds of Success

McGonigal cites the work of game researchers who were interested in monitoring states of peak feelings during video game play. The researchers expected that moments of triumph would produce peak feelings, but they were surprised to discover that peak feelings occurred during failure as well. The game "Super Monkey Ball 2," for example, has spectacular failure sequences that many players find hilarious. The humor relieves of the stress of failing and actually encourages players to play more. They are eager to continue confronting the challenges of the game. McGonigal uses the word "agency" frequently, referring to a state of control and efficacy one feels over one's self. With "positive failure feedback," players do not lose their sense of agency and this is crucial for maintaining optimism that the goal is achievable.

Stronger Social Connectivity

Here, McGonigal challenges stereotypes about gaming as a socially isolating activity. Gamers are not necessarily cut-off from interactions with real people in their lives. In fact, some forms of gaming can facilitate new forms of socializing that strengthen the bonds between friends and family.

One example is Lexulous, a Scrabble-like game played through Facebook (Today's current favorite is Words with Friends). In her study of player interactions on Lexulous, McGonigal discovered that people were frequently playing it with family (especially their mothers) and having chats alongside the game play ("How's that cold? Did you get rid of it yet?"). Lexulous and Words with Friends are asynchronous, meaning the turn-taking happens over time. You can think about your next move for hours or even days. Since you always have a game to return to, you have a structured excuse for checking in on Mom.

Becoming a Part of Something Bigger than Ourselves

One of the most surprising, and strongest, I believe, sections of

McGonigal's book details how well-wrought games can satisfy our need to participate in endeavors of an "epic scale." One of her examples is how the Halo 3 gaming community came together to achieve ten billion kills against fictitious aliens. More than 15 million people joined together to accomplish this goal, and the camaraderie and support amongst Halo players to contribute one's efforts was something not seen in everyday life. McGonigal is fascinated by the idea of what could be accomplished if 15 million people put their efforts into solving what she calls actual "super threats" like climate change and the global economic crises. In one "real-life" game, U.K. citizens combed through millions of previously classified documents to ferret out evidence of government corruption, an investigative task made manageable by the volume of citizens who responded to the cry for help. She imagines a world where sustained and immense collective effort can be harnessed for the greater good.

For those of us who teach, you may instinctively know the power of gaming already through your years of working with children. (Who hasn't played Vocabulary Jeopardy in class?). The gamification movement is hugely popular right now, largely influenced by her work. The concept has taken hold in education with badge systems for completing tasks or posting on a class blog, for instance. With an influx of funds from the Gates Foundation, Khan Academy supplemented its online instructional video program with an elaborate badge and "leveling up" system. My favorite new game for students is Ribbon Hero, a Microsoft plug-in from Office Labs that awards points (and balloons!) as you complete different tasks in Office programs. I have used Ribbon Hero in a new student orientation at our school with great success the students love it and I find it a much more effective method for software training, especially for young people, than my projecting step-by-step instructions on a whiteboard.

However, I can't help but be skeptical of the scale of McGonigal's dreams. An intimidating chasm exists between the games she has created and the games she argues the world needs games that, in her eyes, are within the realm of possibility. In the world of World of Warcraft, collaboration is the norm. But taking the real world into consideration, with global political relationships as tenuous as they are these days, I don't know if true international collaboration is anything the human race will ever achieve. McGonigal's text is tinged with a delightful and inspiring Pollyanna quality, but a quality that perhaps also rouses cynicism in those who encounter concrete tension and explicitly expressed conflict every day, not just in the abstract.

Yet, in the end, I am a teacher and naturally think of myself as an optimist. I find McGonigal's voice to be most powerful in the following sentence, a succinct and compelling distillation of her vision for her work:

Instead of providing gamers with better and more immersive alternatives to reality, I want all of us to be responsible for providing the world at large with a better more immersive reality.

Reality is Broken is not about the "game of life." Nor is it about a "life of games." It is about recovering the best aspects of life through the application of the best aspects of games. It is life we want to enjoy and savor, not games. It is reality we need to repair.

Uncovering the Progressive Past: The Origins of Project Based Learning

Brett W. Peterson
High Tech High

Today the foundational philosophy for an increasing number of progressive schools across the country is project-based learning (PBL). Although the theoretical underpinnings for this approach to education are many, few hearken back to the origins of this once famous national conversation. Below I explore the origins of PBL and attempt to navigate practices and approaches employed by schools a century ago that ultimately informed practices today.

By the end of the nineteenth century the industrial revolution had not only transformed the American economy, but it had also impacted nearly all facets of social and cultural life in the growing and increasingly prosperous nation. As the country answered the call to educate all of its children, industry and big business showed the way with a centralized, efficient approach. This common schools reform movement, led by the administrative progressives, endeavored to accomplish many objectives, chiefly to transform the American school into a vehicle that could Americanize newly arrived immigrants and to prepare students for the workforce.1 By 1920, despite a prolonged

battle with those opposing this force, advocates for a standardized education that prepared students for life beyond school carried the day. School boards, dominated by the business elite, began using procedures that resembled a corporate board of directors rather than a grass roots board representing the diverse voices of those they served (Tyack, 1976, p. 128). With the one room school house a distant memory and the comprehensive high school becoming omnipresent, students across the country attended class at the sound of a bell in the most rational and efficient manner possible.

Before long, though, reformers emerged to counter this movement, namely Francis Parker, John Dewey and a host of others. Termed "Progressives" their movement to reform education at scale became a national conversation and produced dozens of academic journals, hundreds of books and thousands of scholarly articles. Indeed, Larry Cuban claims that at its height some 20% of American students were enrolled at schools utilizing some form of progressive education, including the child centered approach, open classrooms, and the project method (Qtd in Spring, 2008, p. 302). Progressive education included an assortment of philosophies and approaches to reform at the start of the twentieth century, which resulted in some tension among the various camps. But, as suggested by scholar Samuel Everett (1938), there was a "common orientation which tended to unite and made meaningful their common efforts" (p. 431). Perhaps more than any other reason, it was this commitment to reform that allowed progressive education to endure the ages. One wing of this movement that tended to unite more than divide was the one devoted to a curriculum inspired by and designed with the project.

Operationalizing the Theory

First identified and then added to the lexicon of the progressive education movement by renowned education reformer William Heard Kilpatrick, the project revealed itself to him while observing a classroom in Georgia in 1892. From there he entered a period of constant and excited theorizing. Ultimately, the timid writer put pen to paper and released a work that would catapult him to international fame, "The Project Method." Note, though, that famed philosopher John Dewey deserves much credit for sewing the seeds of this revolution in education, for he framed a new approach in the otherwise industrialized, well-disciplined milieu of the early twentieth century. That said, it was the loyal Deweyan disciple Kilpatrick who expanded upon and, much more significantly, implemented altered versions of Dewey's theories. Indeed, as scholar Harold Rugg (1928) points out Kilpatrick was excited to be part of a "vigorous and widespread reform movement in education" (p. 53). Instead of resting on his laurels in Columbia's ivory tower, Kilpatrick possessed such faith and hope in the progressive trajectory that he boldly claimed, "There is no going back now"(p. 53).

But what exactly made this reform so spectacular for Kilpatrick and his ilk?

In short, the thrust came in the form of Kilaptrick's famed "Project Method." Over time several definitions emerged operationalizing "project," but it was Kilpatrick who captured it best: "A wholehearted purposeful activity in a social environment" (1918, p.2). This definition encapsulates not only Kilpatrick's vision for schools, but also reveals what he detested most about traditional schools of the time: teacher driven, overly rigid structures where rote memorization and passivity dominated the learning. Contemporary scholar and devotee of Kilpatrick, John Stevenson (1922), narrowed the aims of the Project Method as follows:

(a) Reasoning vs. memory of information.
(b) Conduct vs. information for its own sake.
(c) Natural setting for learning vs. artificial setting for learning.
(d) The priority of the problem vs. the priority of the principles.

These four aims successfully sum up the core of the Project Method in that they not only describe the aim, but also contrast it with the predominating feature of the common public school at the time.

As the Project Method expanded in popularity so too did the word "project." Much to Kilrtrick's chagrin -- and that of his colleagues and fellow researchers -- they discovered the word "project" affiliated with a wide variety of curricula, much of which did not meet the expectations set forth by Kilpatrick. For example, as explained by

Stevenson in 1922, "simple laboratory exercises" were referred to as projects worthy of the new reform rather than identified for what they actually were: simply crafted opportunities for student self activity. And so Kilpatrick spent as much time explaining what a project was as what it was not.

A Proper Project Revealed

The successful project, as described nearly a century ago and holding true with today's reform movement as embodied by progressive schools, must meet several criteria. What follows are the core components of "wholehearted purposeful activity."

An initial and vital component of a proper project is the setting of said project. It is essential for teachers, far removed from the fields they are teaching, to reconnect the students with the actual setting of the topic being studied. Thus, in lieu of abstraction, students can learn in the most authentic, natural setting possible whether the theater, the forest, the lab or the archive. Most commonly the opposite is the case according to Stevenson (1922): "The system of instruction was developed with the result that the material was often taken out of its concrete setting, was abstracted, codified, and arranged in systematic form for teaching" (p. 194). It was therefore the responsibility of the teacher to either create the most natural, genuine setting possible in the classroom or actually venture out to the setting itself.

An excursion outside of the school's walls revealed a concrete effort to lend the project greater authenticity. Furthermore, by linking students with the outside world, projects not only added to the rich curriculum, they helped students hone democratic principles. As biographer John Beinke (1998) suggests that Kilpatrick saw projects and the excursions affiliated with them as the ideal course to authentically link the student with democratic society (p. 103). With such an authentic connection students would be contributing members of the community rather than passive consumers as in autocratic Germany (Kilpatrick, like many of his contemporaries, were highly suspicious of the autocratic, Prussian system of education and government). Scholar and community leader Paul Pierce (1938) viewed student excursions through a different, more pragmatic lens in that he saw them as the best way to utilize the community's resources for the greatest good (p. 83). His passion for connecting the local community with its school manifested itself largely in the form of scientific studies and statistical surveys carried out by the students in truly authentic settings. At all costs, Pierce contends that a curriculum must be authentic, deal with real life, and connect to the real world otherwise it risks reverting to the norm of "an abstract study of remote life as presented in textbooks" (p. 87).

Perhaps ironically, only half a century earlier, teachers did not need to exert such effort to connect their students with the community. The reason being that most schools in the U.S. in the early to mid nineteenth century had only one room and were often used for a variety of community purposes, including town hall meetings, religious services, and social functions. Taken together, scholar and historian David Tyack (1974) described this as "an organically related system of human relationships" (p. 15). And so with the schoolhouse intrinsically connected to the community's fabric the separation and isolation of twentieth century schools simply did not exist. Educators of the previous era had a great deal to worry about (lack of running water, irregular schedules based on the crop, wide ranging student ages and abilities, etc.), but connecting the community in an authentic setting was not one of them.

Once the authentic setting had been established, progressive educators turned to the content of the subject matter. The Project Method made clear that the content students learned should not be designed simply to prepare them for life once outside of school, but rather should resemble life itself. Moreover, subject matter, according to scholar Herbert Kliebard (2004), "was not simply to be learned but was to function directly in accomplishing human purposes" (p. 140). So instead of studying science students were to behave as scientists (or historians or engineers), actively working towards a concrete final product. While the degree of student interest might vary from project to project, intrinsic motivation -- what scholars of the early twentieth century often called "spontaneous interest" -- surely augmented as the authenticity and complexity of the project increased. In short, Stevenson echoed Kilpatrick's notion that projects aroused more curiosity and thinking in students than any other approach in education.

Common practice in the early twentieth century progressive education indicated that the actual design of a project should follow these four steps: purposing, planning, executing and judging (Cremin, 1961,

p. 218). Purposing involved an exploration by the teacher into the interests of the students in the classroom while also investigating a topic with sufficient authenticity to engage students over a lengthy period. Once established, the teacher planned all components of the project, including scheduling excursions and designing the detailed aspects of the curriculum while also allowing room for spontaneous changes. Executing the project involved students using their minds and hands simultaneously to study, investigate, design, build, analyze, and create. Judging, or assessment, was the final step and involved much more than an exam. In fact, projects sometimes concluded with culminating events like The Parker Fair where each class or student contributed a final product. It was a chance to bring the community together and, according to one teacher, "stimulate children, parents, and teachers to many types of creative expression" (Cooke, n.d., p. 118). Stevenson (1922) offers another example where a class that had studied sugar (a mineral vital to the local economy and therefore deeply connected to the students' lives) had exhibited their final products to other grade levels. Their books about sugar were, at times, "crude" but ultimately were "treasured possessions" for the students who had worked so diligently to create them (p. 238-239).

In addition to being impressed with an exhibition and final product in lieu of an exam, Stevenson also found great satisfaction in the above project in its integration of several subjects, including geography, history, art, and writing. Therefore, true projects showcase an integration of the content. For example, in order to complete their books about sugar and the trade routes that supplied it, students performed research and drew maps in geography class while writing the book's text in English class. As part of their research they wrote to companies seeking information, forcing them first to learn how to compose a professional business letter. When companies replied to their letters the students' "faces beamed with pleasure, and each one, without exception, asked permission to take his reply home to show his parents" (Stevenson, 1922, p. 236). In nearly the same year, several states away, the Superintendent of Schools for Huntington, West Virginia was delighted to see student projects "naturally" expanded to include a variety of different subjects including public speaking (Wright, 1922). Projects like this corroborated for progressive thinkers of the time that an authentic project could and should reduce the divisive walls of subject areas and instead embrace their intrinsic integration.

A Lasting Legacy

In a seeming jab at John Dewey and Francis Parker, Rugg (1928) suggested that Kilpatrick, through his Project Method, "had done more to directly transform the attitudes of teachers and administrators than the more obscure methods of his predecessors" (p. 47). To be sure widespread experimentation gripped hundreds of schools across the country, from a small obscure high school in Ojai, California to an established and exceptionally prestigious school in Boston. Schools, eager to avoid the standardization of their students and the "orgy of testing" gripping the country, embraced the Project Method as an alternative that often proved popular with teachers, students and communities. Although Kilpatrick's Project Method made him famous, his true skill and passion came in the form of oratory (he would eventually teach 35,000 students while at Columbia). Together with several colleagues from various institutions he helped found, and served as editor, for the Journal of Education Method. This publication emerged as a springboard for scholars of the progressive era, prompting a national conversation around reform and resistance to the dominant pedagogy of the time. But times would change.

The Journal of Education Method, the PEA, the philosophies surrounding the Project Method, and even the progressive movement as a whole fell victim to the politics of a rapidly changing world. With the launching of Sputnik in 1957, the Soviet Union set off a massive shift in American public opinion toward schools and the progressive education movement in general (what Cremin (1961) deemed, "a bitter orgy of pedagogical soul-searching"). After several decades of success, the pendulum of reform swung once again. Led this time by scholars who exploited the current events of the time, the attack on progressive education came rapidly and with great force. Their message, advanced largely with the help of eminent scholar Arthur Bestor, urged Americans to harken back to the days when schools solely provided an intellectual training to prepare students for the rigorous work days ahead. The message struck a chord not only in academic circles but also with the public at large with articles in Life and U.S. News & World Report. What's more, Cremin (1961) faults the movement's rapid decline to postwar conservative shifts, a movement too far removed from the original fight, unrealistic expectations of teachers to implement a project-oriented, integrated curriculum, and the aging of

the movement's founders among other reasons.

While Kilpatrick biographer John Beinke (1998) concluded that The Project Method had a "mixed legacy," he did not share Cremin's foresight, who predicted in his seminal history of progressive education that, "Perhaps (the authentic progressive vision) only awaited the reformation and resuscitation that would ultimately derive from a larger resurgence of reform" (p. 253). At least one component of this resurgence has arrived in the form of project-based learning.

Some schools have earned their place as schools that have proven Cremin right. Resisting the dominant culture of standardized testing, buttressed with expensive textbooks, these schools have forged ahead, invoking many of progressive education's past philosophies. Most importantly, they have adopted the project as the primary conduit of learning, for past scholars had demonstrated its power to engage students with curricula they found authentic in an environment they found natural. Despite the deep and profound correlation between life and learning, many schools today actively attempt – and often succeed – to segregate the two.

Conclusion

Project based learning has endured a century of exposure in the often tumultuous realm of education reform. Traces of this philosophical approach to education abound from the early twentieth century to the present, with its popularity in flux with the politics of the time, waxing and waning, but never truly disappearing. As the twenty-first century began PBL experienced a renaissance led by, among others, High Tech High, that has yet to determine its own legacy. That said, schools exist throughout the nation that push PBL as their primary approach to teaching and learning. As increasing numbers of schools move toward a PBL approach to education, it is all the more important to acknowledge the efforts of their forbearers and to learn from the philosophy that ultimately will prove to inspire a revolution in education.

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Cards contributed by: **Pam Baker, Beth DeLuca, Gina Drago, Deanna Driscoll, Jeremy Farson, Meredith Frederick, Nicole Hubbard, Rachel Nichols, Margaret Noble, Cady Staff,**

This issue is dedicated to the memory of Aaron Commerson, a devoted and innovative teacher who turned dreams into projects.

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