

ODYSSEY



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A PUBLICATION OF FUND FOR TEACHERS



Passengers pack in and onto jeepneys.



Artistic and acoustic adornments.



Aristides (right) with a jeepney operator in Batangas.

Solving for X Using Jeepneys

by **Aristides Uy** - Bronx, NY

Students attending International Community High School in the Bronx learn English through project-based instruction. Studying core subjects organized around topics, recently immigrated teens develop language skills and content knowledge. As their math teacher, I train my eye to look for scenarios that challenge students' thinking; I also try to build relationships by sharing our similarities as non-natives of the United States. My Fund for Teachers fellowship helped me accomplish both as I researched a Philippine symbol of culture and tradition - the jeepney.

Jeepneys, originally constructed from US military jeeps left behind after World War II, are today the most popular means of public transportation in the Philippines. Recognized by unique adornments and overcrowded seating, these jeep/jitneys represent artistic expression, efficient transportation for millions of people and the perfect

vehicle for creating an integrated Algebra curriculum that incorporates elements of an Asian society and economy.

My fellowship inspired me to discover unique applications of math in the countries where my students came from.

For three weeks this summer, I studied the manufacture and use of the jeepney commuter system in the Philippine provinces of Batangas, Laguna and Rizal. Beginning at the Sarao manufacturer in Pulang Lupa, and later in Cebu, I found that construction usually takes about six weeks and the cost for 16-passenger jeepneys can exceed 700,000 Philippine pesos (\$16,000). Operators purchase jeepneys and pay a franchising fee with the Land Transportation and Franchising Regulatory Board (LTFRB); they then rent the vehicles to drivers who are

responsible for an operator fee, gas and maintenance costs. A manager at the LTFRB in Quezon City gave me data on franchise payments for each region of the country, and the local television station in Kamuning provided video clips from a recent documentary on the industry.

Continued on page 4

For this "Back to School" issue of *Odyssey*, Fellows contributed first-hand accounts of their fellowships this summer.

They are only six of 533 teachers returning to classrooms with new skills, knowledge and passion after experiencing self-designed learning with \$2 million in Fund for Teachers grants.

Mission in Motion

"World changers are those with the head AND the heart, who have an inner confidence that they can do hard things. Math is a perfect vehicle to develop this ethic because of the problem-solving nature of the discipline."

- Kevin Denton, middle school math teacher, Polaris Expeditionary Learning School - Fort Collins, CO

Project Description

- Developed idea for fellowship in response to students' curiosity
- Awarded \$5,000 Fund for Teachers grant
- Observed microlending, well water and poverty initiatives in Rwanda to create a math/economics unit that demonstrates the meaningful role math can play in solving real world problems

Fellowship Experiences

- Experienced the Kigali Genocide Memorial Center with local guide
- Celebrated 50th anniversary of Rwandan independence with the country's president
- Researched microfinance initiatives at a World Vision microbank
- Observed education efforts at local schools and orphanages
- Witnessed impact of new water well
- Joined board of directors for AriseRwanda, a local NGO

Classroom Impact

- Introduced students to issues of poverty and genocide in Rwanda
- Hosted students from school he visited in Rwanda
- Created data analysis project linking unsafe water to decreased opportunities for education, health and life expectancy
- Inaugurated school-wide microlending team to select and support Rwandan entrepreneurs through Kiva.org
- Initiated a "Water Walk" fundraiser: Students walked 7 miles carrying 119 gallons of water and raised \$4,000 to build a water well through Charity:Water
- Scheduled 2015 student trip to Rwanda

To keep the momentum going, donate at fundforteachers.org



From the Executive Director

Another September, another school year and so we begin. How did you spend your summer? At Fund for Teachers, we spent ours doing inventory. We talked with teachers, administrators and education philanthropists, asking "Are we doing what we were designed to do? How can we do it better?" Taking our cues from teachers and collaborators, we work diligently to keep our efforts relevant and responsive to the innovative needs of our Fellows.

In June, with the help of Expeditionary Learning, Fund for Teachers gathered a consortium of thought partners for our Mindset Institute. Ron Berger moderated the meetings and reflects on our time in this issue. The week produced many outcomes. Significantly, I am pleased to announce our newest collaborations with the National Geographic Foundation, Houston A+, Kauffman Foundation and Globalize DC. Through these and other long-standing partnerships, Fund for Teachers continues to increase its reach to support outstanding teachers across the country.

Practice isn't the thing you do once you're good. It is the thing that you do that makes you good.

- Malcolm Gladwell, *Outliers: The Story of Success*

Eli Manning, Yo-Yo Ma and Justin Timberlake are greats due in part to long hours of effortful practice with a focus on improvement and newly-refined skills. Great teachers use Fund for Teachers grants to do the same.

We know that teaching is an art *and* a science; teachers are creative *and* committed to their craft. As evidenced by stories in this issue of *Odyssey*, effortful practice for these teachers included becoming a propellant in a physics experiment, assimilating into a different culture and returning to the role of student in a seminar. The complexity and the perseverance exercised in the pursuit of new knowledge make these, and all of our Fellows, leaders in their field.

Teachers and students learn best when they take on unfamiliar challenges. Quite simply, our mission at FFT is to keep minds in motion. Please contact me to help build the momentum.

Keep learning,

Karen K. Webb
Executive Director

Our Mission

Fund for Teachers enriches the personal and professional growth of teachers by recognizing and supporting them as they identify and pursue opportunities around the globe that will have the greatest impact on their practice, the academic lives of their students and on their school communities.



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Walking grounds of DuBois Center with local guide (left).



"The Gate of No Return" at Elmina Castle.



Graffiti in Monrovia supporting teachers.



Elmina Castle at dusk.

The Maafa and its Meaning for Boston Students

by **Chris Summerhill, Benny Benzan and Logan Jones** - Boston, MA

At the height of the African slave trade, grandsons of America's founding fathers chartered The English High School in Boston. Almost 200 years later, three teachers from that school designed a Fund for Teachers fellowship to research the slave trade in Ghana, Liberia and Sierra Leone. Chris Summerhill, Benny Benzan and Logan Jones spent the month of July documenting West Africa's progress toward academic and social achievement to help their Latino and Afro-Caribbean students connect with this period of history. They share, in dialogue format, fellowship highlights:

Chris: "Maafa" is a Swahili term that means "the great disaster" and is used to describe the history and effects of atrocities inflicted on African people. Our students' lack of literacy about the role of the slave trade in the Maafa led us to design this fellowship. We wanted to provide students with first-hand accounts and resources about the transatlantic slave trade because, as Marcus Garvey said, "A people without knowledge of its history is like a tree without roots."

Benny: "Our fellowship began in Ghana, where we visited three monuments: Kwame Nkrumah Memorial Park, the W.E.B. DuBois Center and Elmina Castle. A pioneer in Pan African thought, Nkrumah is honored with a park and museum about this country's first president, prime minister and founder of the Organization of African Unity. At the DuBois Center, we visited the home and resting place of the co-founder of the NAACP and leader of the expatriate community in Ghana. The final and most powerful monument was Elmina Castle, that held Africans captive before they walked through the infamous "Gate of No Return" to ships that carried them to slavery. I feel a mix of anger and deep sadness when I think of the atrocities committed there."

Logan: "In Liberia, we explored Monrovia – the capital city named for President James Monroe in honor of his support for the country's colonization in 1822. I enjoyed seeing and feeling the differences between each of the countries; our observations will be

extremely valuable in providing students an accurate version of history to study so that they can put their lives into context."

Benny: "We first witnessed the presence of Islam in Freetown, the capital of Sierra Leone. At any given moment, we heard sermons from Christian preachers or Muslim Imams blasting through speakers in homes, businesses and buses. My favorite site there was St. John's Maroon Methodist Church built in 1808 and named for the "Maroons," or runaway slaves comprising its membership. After learning about how a group of Jamaican Maroons ended up in Freetown, I plan to develop lesson plans based on my photos and research."

Chris: "Every aspect of this fellowship will bring our teaching to life. We're now able to teach from our own experiences, as well as insights of many people whom we met. Our formal interviews, coincidental meetings and numerous experiences will authenticate our students' knowledge and perspectives on Africa."



Lights, Camera, Science

by **Trey Joyner** - Chattanooga, TN

Filming a gravity lesson while skydiving.

An engaged student learns. This is what I wanted to model in my Fund for Teachers fellowship. From this premise, I worked backwards to design my own professional development that took me on a six-week journey from Savannah to Seattle and back, covering more than 7,600 miles and 21 states. How far am I willing to go to accomplish the goal of engaging my students? This is just the beginning.

I'm an eighth grade science teacher at Normal Park Museum Magnet School in Chattanooga, not a commercial truck driver; but after this summer, I believe I'm qualified for both professions. I drove a 36½ ft., class A RV – towing a Jeep Cherokee – through the narrow roads of the Garden of the Gods, into the rainforest of Washington State up to snow-topped Estes Peak. I strategically planned my route to address each of the science standards: biodiversity, adaptations, fossils, physical science and gravity. My itinerary included unique experiences and expert interviews, all

captured on film.

When I wrote this grant proposal, I spent countless hours researching. Where to go; what to do; whom to interview; what to learn at each step – all of these were addressed. Then after I received the grant, I spent even more hours learning and researching. With zero experience in video production, camping or driving big rigs, I watched hours of "How to" videos and met with local video production specialists – professional videographers, to editors, to a nationally- syndicated TV show host. I even practiced in the classroom when

students and I created a music video on magnetism. But none of this fully prepared me for the work ahead.

On this quest, I filmed a Cajun talking about the invasive species affecting the area while we sped through the Bayou swamps of Morgan City, LA. I filmed rock formations, fluid dynamics, erosion, deposition and weathering along Rocky Mountain roads. I filmed dinosaur tracks in Golden, CO, and dinosaur fossils in Bozeman, MT. I filmed biodiversity in the tundra atop Rocky Mountain National Park. I filmed as I took water samples from bodies of water all along the



Cruising down a Louisiana bayou.



Exploring a mountain top in Randle, WA.



Testing water salinity in Savannah, GA.

“This fellowship truly sparked something exciting for me as a teacher.”



Observing research at a NOAA Lab.

way. I filmed from Mount Saint Helens to Mount Rainier. I filmed a gravity introduction that began as I jumped out of an airplane with a parachute strapped on, and again as I ascended a 2,000 ft. rock face. I filmed a video on density as I panned for gold with a fellow camper and interviewed others on sustainable fishing as we fished the rivers for trout. I filmed fishermen at the docks and experts at Pike’s Fish Market, and later a scientist at the NOAA facility at University of Washington’s labs in the San Juan Islands. And all of this was before I stayed in Yellowstone National Park. Biodiversity, acidity, alkalinity and so much more were topics explored for the express purpose of engaging students through short videos launching them into their own exploration in the lab and beyond.

This fellowship truly sparked something exciting for me as a teacher. For example, I already planned a snorkeling trip to the Conasauga River with the USDA forestry service on which students will create a video documentary. Now they will ask questions sparked from one of my videos, then go out into the field and find answers from multiple sources. They will interview the forestry service ranger, observe and test the water, research in the classroom and film evidence to support their claim. Who’s ready for Common Core and Next Gen Science Standards? We are!

From the raw footage I recorded this summer, plus the video that students will shoot this school year, we will together continue to produce short science films. My videos will be used

to ignite student inquiry, while their work will demonstrate learning by gathering evidence. My students’ videos will be shared with their peers and the community through a quarterly “exhibit night,” where they’ll show off their hard work and field questions from visitors. We’ll also share our published works with the school district and beyond for more teachers and students to use. I plan to create a website with the finished works to serve as a hub for other teachers to upload their own short films in all subject areas.

We have a blog at *scienceshorts.blogspot.com* that will continue to document my fellowship experiences, as well as my students’ learning. This is just the beginning.

Symbolizing a growth mindset, participants planted a tree near the UCross Foundation.



Berger facilitated the Institute's sessions and activities.



Plaque beside the newly-planted tree.

Changing Teacher Mindsets

by Ron Berger, Chief Academic Officer - Expeditionary Learning

To improve teaching and learning, almost nothing is more important or more difficult than changing the mindset of a teacher to believe he/she is capable of more than thought possible. Most teachers develop a sense of their personal strengths and challenges in the first year of teaching, build instructional routines that fit this, and their teaching stays basically the same for the rest of their careers. How can we inspire teachers to reconsider their potential to grow and improve their practice in powerful new ways?

In late June, Fund for Teachers convened an institute on this topic, bringing together FFT Fellows and experts from across the spectrum of education. Planned and facilitated by FFT partner Expeditionary Learning (EL), the group met in Sheridan, WY, and worked together to consider how an explicit focus on changing teacher mindsets could strengthen FFT and the wide range of organizations represented at the meeting.

Mindset experts Eduardo Bricena from Mindset Works and Camille Farrington from the *Consortium on Chicago School Research* presented the latest research on mindsets and education, and the group used this lens to analyze the learning of FFT Fellows,

the nature of the FFT program, and the work of other teacher development organizations represented, including: *EL, Math for America, BPE, The National Geographic Society, Globalize DC, Houston A+ Challenge, the Kauffman Foundation, The Ellbogen Foundation and Holbrook Travel.*

Those who understand the transformational power of Fund for Teachers fellowships have both an intuitive sense and evidence from the classroom that teachers grow from these experiences. It is important to also use the language and conceptual framework of Mindsets, pioneered by Stanford researcher Carol Dweck, to understand, promote and improve the effects of the FFT program and the professional development work of other organizations that believe teachers learn best when they take on challenges beyond what is comfortable and familiar.

Dweck distinguishes between a *fixed mindset* – assuming that intelligence and skill are basically fixed by your natural ability, and a *growth mindset* – assuming that intelligence and skill grow directly with practice, particularly through taking on new challenges. Research suggests a strong correlation between teachers' and students' growth mindset and academic achievement. Teachers and students

need both a framework to understand growth mindset – and the language to promote it in the classroom – and need experiences that ignite it.

The institute began with most participants being challenged immediately – pushed out of their comfort zone – as the first activity was an artistic one: creating watercolor paintings. Most began with a fixed mindset – “I am not an artist.” As the participants moved beyond their initial mindset and began to produce paintings that generated the admiration of others, they grew proud of their work and saw their skills and perception begin to grow quickly. We considered how the activity was structured to promote challenge and growth without panic, and how this same process must be embedded in professional development.

FFT Fellows presented on fellowships and the impact in their classrooms, and in particular, highlighted how their own mindsets and the mindsets of their students changed through this work. Fund for Teachers has much to contribute, and much to learn, from the growing field of mindset research.



Team members with Eric Jensen.

Brain Healers

by Amy Mouka - Neenah, WI

Children raised in poverty struggle against obvious external factors; research now provides scientific proof of the internal results. Their brains actually physically change. Areas of the brain associated with impulse control, cognitive development, language skills, memory and the ability to positively respond to stress and conflict are consistently assaulted. At Hoover Elementary School, we implement tactics that challenge these barriers to learning, including free breakfast for all, additional wellness classes, and increased physical education and music time. But our best efforts are Band-Aids for an epidemic. Eric Jensen, renowned leader in brain-based teaching, leads educator workshops explaining how poverty affects student behavior and achievement. Empowered with this information, teachers develop new learning strategies and begin healing the injured brain. With a Fund for Teachers grant, our team of six teachers attended two of Jensen's workshops in San Antonio, TX – "Teaching with Poverty in Mind" and "Tools for Maximum Engagement."

Both of the workshops were engaging, energizing and inspiring. Jensen taught us in the way that research shows students learn best: role-playing in our group led to a better understanding of the material, hands-on projects fostered peer relationships, physical energizers kept us interested, and movement and repetition assisted with memorization. As a result, we connected to the material, remembered his instruction and felt good about our learning. We experienced the strategies at work.

A highlight from both workshops was learning how to set "gaudy goals" – targets set shockingly high that give teachers and students something big to shoot for. Our team committed to the following:

- No children at our school will need reading support
- All first grade students will read two grade levels above where they started
- There will be no behavior 'write-ups' from students in our class, and
- All fifth grade students will qualify for middle school math.

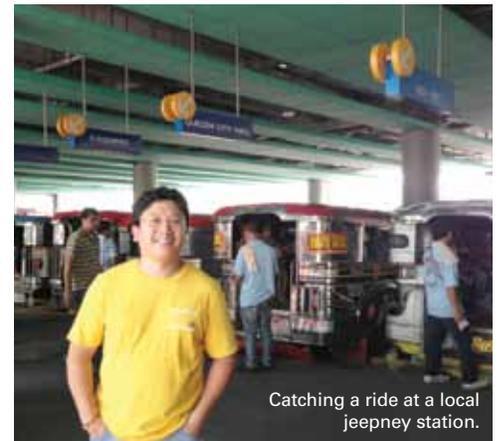
These goals will help our students develop persistence and achievement as they're constantly reminded that we believe in them.

We also created a "gaudy goal" for our school: All students will be engaged all day, every day, by teachers who respond to students' states, build positive relationships and connect movement to learning. We will help staff members reach this goal through staff development sessions, monthly emails, buddy class mentoring, and leading by example. Ultimately, teachers at Hoover Elementary will build positive relationships with students to create lifelong learners who graduate from high school. Eric Jensen's workshops gave us the necessary skills, positive attitudes and determination to make this a reality.

Solving for X Using Jeepneys

(Continued)

All of these factors create limitless algebra problems. For example, rates that commuters pay depend on the distance they travel, so concepts of slope, y-intercept, linear equations, graphing and multiple math representations immediately come to mind. Another example: When one operator bought his jeepney, he placed a down payment of 300,000 pesos and will continue to pay Sarao an in-house financing of 8,000 per month for 3 years until he owns the vehicle. With this information, students can explore business math, financing, simple and compound interest, investments and savings.



Catching a ride at a local jeepney station.

My fellowship inspired me to discover unique applications of math in the countries where my students came from. Although the reality of the jeepney is a thousand miles away, my research will start conversations about how math is a valuable tool all over the world. I benefitted greatly from exploring math in action outside the classroom and will be a more effective teacher by providing concrete examples that accurately depict the often abstract math concepts in an Integrated Algebra class.



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