Advanced English

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Lesson 1
'Facebook' for Scientists Could Speed Advances

As he worked on a medical imaging experiment a few years ago, Harvard researcher Ijad Madisch kept running into problems. It could have been the algorithms he was using or the way he set up the __________. Something wasn’t quite right. "These are the small things, which in science, you know, cost you a lot of time." (says Madisch.)

His advisor didn’t know why the experiment wasn’t working. Nobody in his lab worked on the same stuff and none of his _________ friends could help. "I was so frustrated. You know, there has to be something online where I go, where people can present themselves as a scientist, where they put their information about their research and their publications and you can search for it."

That’s when Madisch got the idea for a social __________ for scientists, like Facebook, but with a more serious mission—a web platform where researchers could connect with each other and share best practices and information about their work that doesn’t get published. Madisch saw his idea - which he named ResearchGate - as a tool to make scientists more __________.

"My goal: to win the Nobel Prize. And I really believe in that. If we think that ResearchGate will accelerate research in all the different fields, it will change the speed of science significantly in the future. So I definitely believe that ResearchGate could win the Nobel Prize for that one day." (says Madisch.)

That big idea wowed investors. ResearchGate received funding from a former Facebook executive and the same venture capital firm that backed Twitter. So far, 900,000 people have signed up his _________.

One of them is Caroline Moore-Kochlacs, who logs onto the website at her Boston University office. Her profile page shows her picture, her field - neuroscience - her doctoral advisor and publications. She can follow other researchers, or click onto group pages that discuss __________ topics. "Let’s see what’s going on in the computational neuroscience group today."

Moore-Kochlacs uses Facebook too, but says people on that site feel like they have to be clever or stick to ordinary topics. "What’s the best camera to buy? I’m going on a vacation. They’re never anything to do with science."

Moore-Kochlacs likes ResearchGate because she can ask _________ questions about algorithms or what reagent to use in a certain chemical reaction. She can also find out what labs are working on before they publish and catch up with recent publications. "The scientific literature is so huge at this point that it’s really impossible to get
through, you know, everything in your topic area. People really rely on hearing it from other people," she says.

But not every ResearchGate user is ________ with its networking. "I’m not really seeing the value in this." Kim Bertrand is an epidemiologist at the Harvard School of Public Health. "Sometimes I get these e-mails that are like, 'Dear Sirs: I’m writing a dissertation on public health. Any suggestions? Please advise.' I don’t need that."

Bertrand signed up for ResearchGate when a __________ suggested it, but she says she’s content so far with her own offline network of fellow researchers and advisors.

ResearchGate founder Madisch says he knows his site will only prove valuable if scientists use it to help each other. But, if it develops into the indispensable social network for scientists—he hopes it will—he’ll have made more of a __________ to science than he ever could as a lone researcher.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 2
Farmed Fish Feed More, Pollute Less

The report by the WorldFish Center, a private group that advocates sustainable fishing, provides a comprehensive picture of global aquaculture. It compares farming practices and fish species across 18 countries to answer some basic __________.

Says WorldFish Center director and report author Stephen Hall, “What works best? What’s most efficient? Which things do we need to pay most attention to when we try and think about improving the environmental performance of a very important food production sector?”

Ninety-one percent of farmed fish come from Asia, with China alone __________ for more than 61 percent of that production. Stephen Hall says from country to country, and across a range of production systems, the __________ impact of aquaculture varies widely.

“And that tells us that that huge opportunity for the best to learn from the worst and substantially reduce the environmental impact across the globe.” (Hall said.)

That impact can be __________. Waste from poorly managed aquaculture ponds can pollute ground and coastal waters, and certain carnivorous species like salmon must be fed products made from other fish, like oil and meal - meaning continued __________ on wild fish populations.

The WorldFish Center report notes that shrimp and prawn production methods in China had a greater impact on the environment than the __________ used in Thailand or Vietnam. “In contrast, One of the real ‘good guys’ in this are the bivalves, the oysters and the mussels, which actually take up nutrients and actually remediate and improve the environment as one grows more of them.” (Hall said.)

While the report did not look at the impact of farmed fish on wild fish populations or on disease, it did find that when comparing the impact on climate change, land use and __________ demand, aquaculture fared much better ecologically than livestock. Consider, says Hall, that it takes 61 kilograms of grain to produce one kilogram of beef protein, while the ratio for fish protein is only 13 to one.

“And so when we make these decisions on what we eat and how we manage our environment and the resources we use to produce our food, fish are an important part of that equation because, generally speaking, they are in the animal source food area, one of the groups that is particularly attractive for developing further.” (Hall said.)

Industry experts predict that farmed fish output will increase 50 percent from current levels by 2030.
In the United States, which currently imports 84 percent of its seafood and produces less than 2 percent of the world’s cultivated fish - the Obama Administration has proposed new __________ that would make it easier to set up fish farms in federal waters.

U.S. officials say expanding domestic aquaculture production will reduce pressure on wild ocean catch and cut the nation’s seafood imports.

While many environmental groups have expressed wariness about the rapid expansion of fish farming, the global aquaculture assessment released this week suggests that fish farming done well can be ecologically benign. Sebastian Troeng is a vice president at Conservation International, a co-sponsor of the report. He says among its key recommendations are increased __________ in aquaculture production.

Troeng adds that careful compliance with environmental regulations is also essential in reducing adverse impacts as the industry grows. “So we can understand where there is going to be a push to increase production and then help guide that production so that it doesn’t place unacceptable demands on the environment.” (Troeng said.)

Troeng says the challenge is to get public officials, agencies, industry and communities to work together with a set of common goals that address world food needs while also __________ the environment.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 3
Mother of Hubble Always Aimed for Stars

Nancy Grace Roman’s fascination with space began not long after she was born in Nashville, Tennessee in 1925, the only child of a teacher and a scientist.

“My grandmother sent back a letter that mother had written when I was four, saying that my favorite thing to draw was the moon. Certainly by the time I was in seventh grade, I knew I had to have a long education if I wanted to become an __________, but I figured I’d try it and if I didn’t get far enough I could always end up teaching in high school or math or physics.”  (Roman says.)

But pursuing her interest in astronomy was not easy. Women of her generation were systematically __________ from going into science.

“I still remember asking my high school guidance teacher for permission to take a second year of algebra instead of a fifth year of Latin. She looked down her nose at me and sneered, ‘What lady would take mathematics instead of Latin?’ That was the sort of reception that I got most of the way.”  (Roman says.)

But Roman was __________ to become an astronomer and learn everything she could about stars. She went to college, studied science and earned her doctorate in astronomy from the University of Chicago in 1949.

She spent the next decade teaching and working as a research associate but soon __________ that, as a woman, her prospects for advancement at a research institution were limited.

So, in 1959, she accepted a job at NASA, the U.S. space agency, to set up a program in space astronomy. As part of her new job, Roman travelled around the country, trying to __________ what astronomers really wanted.

“Astronomers had been wanting to get observations from above the atmosphere for a long time. Looking through the atmosphere is somewhat like looking through a piece of old, stained glass. The glass has defects in it, so the image is blurred from that.”  (Roman says.)

That need for clear, sharp images from space was all the __________ she needed. “I set up a committee of astronomers from all over the country, plus some engineers from NASA, to sit down together and decide what we should do, what did the astronomers want to do, what did the engineers think was possible to do, and I led that effort for several years until we had a fairly detailed design of what we thought would make sense.”  (Roman says.)

That design was the Hubble Space Telescope, an instrument that could soar above the atmosphere, orbit the earth, and capture and transmit clear __________ of the universe back to earth.
Ed Weiler, NASA’s current chief astronomer who worked with Nancy Grace Roman at the agency, calls her “the mother of the Hubble Space Telescope.”

“Which is often forgotten by our younger _________ of astronomers who make their careers by using Hubble Space Telescope. Regretfully, history has forgotten a lot in today’s Internet age, but it was Nancy in the old days before the Internet and before Google and e-mail and all that stuff, who really helped to sell the Hubble Space Telescope, organize the astronomers, who eventually convinced Congress to fund it.” (Ed Weiler says.)

Since her retiring from NASA in 1979, Roman has spent much of her time _________, teaching and lecturing across the country, all the while continuing to be a passionate advocate for science.

Today, at the age of 86, Nancy Grace Roman says what she most enjoys is teaching motivating young girls to dream big. “One of the reasons I like working with schools is to try to convince women that they can be scientists and that science can be fun.” (Roman says.) Many young women have no doubt been inspired by this trailblazer to set aside their inhibitions and reach for the stars, as she once so _________ did herself.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 4
Concussions Impact US Teen Athletes

Every year, more than 60,000 U.S. high school athletes sustain a concussion, a type of brain injury that can be caused by a blow to the head or even the upper body. While most of them occur during a game or practice of American football, concussions can also happen in just about any other _________ sport. This includes soccer, lacrosse, baseball and even wrestling.

Seventeen-year-old Dane Harlowe was an award-winning athlete at Annandale High School in the state of Virginia. He has been wrestling since he was six years old.

This past February, Dane sustained a concussion when his _________ head butted him during a regular match. "I kind of backed up a little bit and I told the ref I needed a time out, and so the trainer came over and checked me. And she just wanted to see if I was having a symptom of concussion." (Dane said.)

Dane’s father Dennis Harlowe, a former wrestler himself, was _________ at the match. "Dane just laid there face down on the mat with his arms by his side while the kid was working him. I’m looking and wondering ‘Why is this continuing, obviously something is wrong,’ and when Coach Sholders said, ‘There’s obviously something wrong, stop the match.’ The ref blew the whistle and stopped it and it actually turned out to be the end of the match." (Dennis said.)

Luckily for Dane, Annandale High School employs a _________ athletic trainer. Alison Lane quickly evaluated Dane for signs of concussion. “An athlete that sustains a concussion will have any of the symptoms—confusion or fogginess, inability to think straight, a headache, nausea, dizziness, feeling off balance.” (Alison said.)

After testing the young wrestler, she _________ that he did indeed have a concussion. "We do a baseline cognitive test. We have the athlete sit down and take about a 20-minute test to see how they think cognitively when they’re healthy, so that when they do get injured and they do sustain a concussion, we can then go back and compare it. That gives us some objective data to use when we’re evaluating and deciding whether an athlete is ready to go back to play." (Alison said.)

Dane was instructed to take time off from his sport and his studies to give his brain a chance to __________. Then he was tested again a short while later to make sure he was healed.

"I’d go down to the training room every day after school and they’d make me ride the bike and do pushups and sit ups and jumping jacks just to see if any athletic activities would give me a headache or make me dizzy or something. And then they would make me take the on-line concussion test." (Dane said.)
Professional athletes who get concussions should also take time off, but many do not, preferring to get right back in the game. The repeated head trauma they can lead to a disease called Chronic Traumatic Encephalopathy, or CTE. Symptoms - which may take years to appear - can include memory loss, aggression, confusion, erratic behavior and depression…and can lead to substance abuse and suicide.

Media attention has focused on a number of former professional football players who developed CTE. Seven years after retiring from his National Football League (NFL) career, Shane Dronett took his own life at the age of 38. Dave Duerson, who played for the Chicago Bears for 11 seasons, shot himself to death in February (2011).

But concussion-related injuries at the high school level have not attracted as much attention. In fact, only 42 percent of high schools have access to certified athletic trainers who can evaluate an athlete immediately after an injury. And that’s a problem, says certified athletic trainer Marjorie Albohm, president of the National Athletic Trainers’ Association (NATA). "I call this truly the neglected population. We provide the best medical care for our elite highest-level athletes, internationally, and forget those millions of kids that are out there, unsupervised medically."

Albohm says coaches and parents need to be less demanding of young athletes, schedule less competitive play and be extra vigilant about injury symptoms. Her organization is working with the National Football League to try to raise public awareness about the dangers of concussion and encourage new safety laws.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 5
Young MBAs Compete to Solve Global Problems

Solving the world’s most pressing social challenges takes passion, dedication, innovation and a good business plan. That’s the idea behind the Hult Global Case Challenge.

Hult International Business school is one of the world’s top schools, with campuses across the globe. Three years ago, one of its enterprising MBA students founded the Hult Global Case Challenge, the Hult GCC, a competition for business students to come up with ideas to solve pressing global issues.

“We’re not interested in farfetched ideas that aren’t actionable.” Ahmad Ashkar challenged student teams from business schools around the world to develop innovative strategies for selected non-governmental groups, to help their efforts to tackle some of most urgent problems of the day, including chronic hunger, and disease.

"Every solution that gets evaluated today will focus on the implementation and how a one-million dollar cash grant can be paired with the solution for immediate impact.” (Ashkar says.)

After examining an organization’s mission and operations, students put together a business plan to increase its and its bottom line.

“It’s equivalent to about 20,000 hours of consulting advice from world’s smartest youngest people.” Howard McNally, Hult GCC chief executive officer, says everyone is a , the NGOs and the students.

Each year the competition has a different theme. Poverty is this year’s challenge area and Hult has partnered with three nonprofits. SolarAid fights poverty through energy conservation and sustainability. Habitat For Humanity erects simple, affordable houses. And One Laptop per Child builds computers and sells them at cost to governments for in poor communities.

“We have about three million laptops more right now in about 40 different countries in South Asia, Sub-Saharan Africa, Latin America and in some places in Europe.” (Keller says.) Matthew Keller is vice president of One Laptop per Child, which is participating in the Global Case Challenge for a second year. “It’s vitally important for the future of development, the future of economic prosperity, the sooner these young people get involved and know that they can make a difference. That’s a big deal.” (Keller says.)

Thirty-year-old Sandy Parakilas participated in the first in 2009, when the challenge was to help their NGO reach 100 million people in five years. His
team from Carnegie Mellon University won one of the three top prizes for the business plan they ________ for One Laptop per Child.

“They were struggling with competition from Microsoft and Intel. And they were having trouble basically making money. So it was a great opportunity for some business students to come in and create some ideas for a not-for-profit to be more profitable, essentially.” (Parakilas says.)

This is the first year SolarAid is taking part in the competition. Spokesman David Batley says the __________ focuses on rural areas in eastern and southern Africa, where kerosene is a major source of energy and pollution. SolarAid works with local entrepreneurs to bring solar energy products to rural communities.

“But that’s the first half of the challenge. The other part of it is how you get those technologies in front of the communities in which they’re needed, how do you build up the trust, and how do you get the logistics required to get those products out to people.” (Batley says.)

The students who design a plan to meet those __________, he says, will be the winners. “I think the winning team will be the one that uses a combination of really innovative thinking and taking account of practicalities of operating in Africa and the challenges that that represents.” (Batley says.)

Hult GCC’s Howard McNally says a million-dollar prize will be awarded to the winning team in each of this year’s three categories: education, housing and energy conservation. “The winning team gets recognition, but the money goes to the agency to implement the winning teams’ ideas.” (McNally says.)

Regional competitions will be held on February 25, at Hult campuses in Boston, San Francisco, London, Shanghai and Dubai. The finalists will be _________ in New York City on April 26 (2012).

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 6
New Words Coined in Rapidly Changing Era

We human create the words we need to describe our changing world. This is the basic thesis of “Virtual Words”, a book that contains many examples.

Author Jonathon Keats who tracks such terms for WIRED offers “spam” as one now-familiar example. It was first used as a brand name for canned luncheon meat but it has come to mean the ________ email that clutters our in-boxes.

“The term came about because ‘spam,’ being junk e-mail, and Spam luncheon meat many consider (to) be junk food, there was a resonance between the two. So that people began to call their junk email ‘spam.’ Spam was a term that people could rally around and they could rally against this email they didn’t want.” (Keats says.)

Keats is ________ about the evolution of terms. The phrase “Chinese Firewall”, for example, is a variation on the Great Wall of China. It refers to the heavily-monitored and censored Chinese Internet.

The word "tweet" is more familiar. It has come to mean a short message on the social networking site “Twitter,” as well as sending such a ________. The creators of Twitter developed it as a way for people to monitor taxi, police and other dispatches, so they could get an overall picture of a city at any given moment. But soon unanticipated uses developed.

“Twitter became many other things. It became a news feed. It became a form of everyday narcissism. And it became all these different things because Twitter encouraged many other companies to make use of their system and to give Twitter other possible uses, other possible meanings. The term ‘tweet,’ though no one quite knows, was initially used by users of Twitter and was never trademarked, unlike Twitter. So when we ‘tweet,’ what that message is, what the content of that message is, and what the purpose is, these are totally open ended.” (Keats says.)

In a word, the meanings of “tweet” have become “crowd-sourced.”

“Crowdsourcing” is a term ________ the word “crowd,” a random collection of people, and the word “outsourcing,” a corporate practice of sending jobs abroad where wages are lower. "Crowdsourcing” refers to a process where many people are solicited to complete a project. It might be an invitation to pore over online photographs that need to be categorized, or an invitation to solve a technical problem, where the winner is awarded money or a ________.

Keats says Wikipedia is another example of crowdsourcing -- although it’s sometimes inaccurate. “Wikipedia is a collective encyclopedia that is created online by anybody, anywhere, being able to write an entry on whatever subject, be that...
George Washington or a given sort of weather pattern. And anybody also is able to edit those entries." (Keats says.)

Keats says ____________ scientific or technical words can combine to describe new ideas that then attract further scientific interest, and with it, funding and research. Take “microbiome” for example. It combines “microbe,” the smallest form of life, and “genome,” which is the totality of genes and genetic information in a living ____________.

“There is a theory that we are as much the microbes that we carry, that are involved, for example, in our digestion, as we are for the genes in our own cells. This is an incredibly complex and powerful idea which results in a whole new way of doing biology.” (Keats says.)

Sometimes words combine a scientific ____________ with an activist agenda. Keats offers the word “anthropocene” as a case of the point. It is a term used by some geologists to denote the current era, when human activity such as carbon-based pollution, widespread industrial agriculture, and the disposal of billions of metric tons of waste concrete and artificial stone are leaving a physical record on the ____________.

“There is this sense that calling attention to that and therefore perhaps making us think about having a bit less of an impact on the environment would be a good thing, and that science not only can observe the world as it currently is, but can have a proactive role and influence us to live in a way that will be for the benefit of the world.” (Keats says.)

Several of the terms in “Virtual Words” are fantasies until some future date. There is “exopolitics,” which refers to foreign affairs with aliens. “In vitro meat,” which refers to steaks and chops grown from artificially cultured muscle cells, is closer to reality. Just where science and technology - both real and imagined - will take us is anyone’s guess. However, this much is certain - the future’s coming and it may be strange to ____________, at least for now.

**Questions for Discussion**

1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 7

UN Called on to Fulfill Family Planning Promises

It’s estimated that every year nearly 360,000 women die from pregnancy-related causes. Most of the deaths are in sub-Saharan Africa. As the United Nations General Assembly opens a new session, it’s being called on to provide more family planning ________ to hundreds of millions of women.

In 1994, the international community agreed that family planning should be an integral part of reproductive health. The International Conference on Population and Development in Cairo issued a program of action that called for “the provision of universal access to reproductive health services, including family planning and sexual _________.”

But 17 years after the conference, advocates say promises remain unfulfilled.

The Global Leaders Council for Reproductive Health says family planning services are needed now more than ever as the world population soars. It’s expected to reach 9 billion by 2050. The council is made up of current and former senior leaders from more than a dozen countries, as well as other health _________.

“Reproductive health is not just important to women. It’s important to humanity, as we all know. I mean it’s the basis of our survival and the propagation of the human race.” That’s Joy Phumaphi, former minister of health in Botswana and a ________ of the council.

“It is absolutely critical that at any point in time a family only has the number of children that it can afford to take care of and bring up into well-rounded citizens. And it is also critical that a family is able to space these children and have them at intervals that enable them to bring up each child effectively.” (Joy says.)

Dr. Fred Sai is a Ghanaian physician, a former professor of ________ and past president of the International Planned Parenthood Foundation. He, too, is a member of the Global Leaders Council of Reproductive Health. “It seems to have dropped off the radar in recent years. When HIV became uppermost and funding had to be got for HIV, It looks as if family planning lost priority.”

Sai says in Ghana early ________ is a common practice - one that can put the health of young girls at risk.

“A girl gets married at about 14. I don’t say she should be. It would be best if we can give them education so they don’t get married at 14. But if they do, if they have no preventive, they start getting pregnant. This leads to a whole lot of health problems.” (Sai says.)

Without readily available family planning, Sai said a country’s social and health services can be _________.

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“We want free education for our children. We want free health services for our children and people. And the more we try to build the competencies to deal with education, competencies to deal with health, facilities to deal with health, the more we have new entrants.” (Sai says.)

Former Botswana health minister Phumaphi agrees.

“We have countries in sub-Saharan Africa where over 50 percent of the population is either young people or children. We have this youth bulge. We have a child bulge, which we cannot keep pace with.” (Joy says.)

At the 1994 Cairo conference, ____________________ included family planning counseling, pre- and post-natal care and education on human sexuality and reproductive health.

Opposition came from the Vatican, Muslim nations and conservatives in the United States. One concern was that the recommendations would promote abortion as a fundamental right and would encourage it as a method of family planning.

Dr. Sai said a woman’s health should not be a matter of religion or politics.

“People should be left without knowledge so that they die in ignorance when the health things are there to save them, when they can prevent it. I find that argument very difficult because some say that when you teach youngsters how to look after their bodies, then you are tending to teach them how to be promiscuous. I think it’s only in this field that you teach somebody something and then they do the wrong thing only. We teach things so they know what the choices are.” (Sai says.)

Sai says he wants African families to have the same family planning choices as Americans. Phumaphi says it’s time to ____________ in family planning.

“We have to make it a priority in the same way that we made HIV/AIDS a priority, that we made malaria a priority. We have to make it a priority.” (Joy says.)

The Global Leaders Council for Reproductive Health is chaired by former Irish president Mary Robinson. It’s calling for a doubling of investment in reproductive health in poor countries to $6.7 billion.

Critics have said lowering fertility rates will not necessarily bring economic benefits and that family planning programs are not always effective. Other criticisms include concerns that such programs may coerce women to take part rather than volunteer. And that the programs may be culturally ____________ or violate religious beliefs.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 8

Fast-Growing Internet Communities Share Human Milk

Lindsey Ward has two children. Because the 23-year-old mom isn't able to produce enough breast milk, she fed her first child ________. But when her second baby, Joshua, arrived nine months ago, she decided to give him the best of all baby foods: human breast milk.

"When he is ready to eat I take one of these out and put it in cold water so I can thaw it out. Right now, I have milk from three different women in this freezer." (Ward said.)

For the past 9 months Ward has used breast milk from 15 women. She met them through a ________ of Internet-based social networks, and online breast-milk sharing groups such as Eats on Feets, and MilkShare.

"What I would do is that I would post on the [Facebook] 'wall' like 'I need milk for my 9-month-old son.'" (Ward explained.)

And within a few hours, women respond. They chat online; they agree to meet to pick up the bags of frozen milk. No money changes hands. Ward says her baby has been healthy and gained ________ normally on his breast-milk diet. She says she's also made great friends, like Amanda Brewer.

Amanda has four children and has breastfed them all. She became a member of Eats on Feets when she had to stop feeding her two month-old baby ________ because the dairy milk she was drinking was passing through her own milk and triggering an allergic reaction in her baby.

"So we found two donor moms who didn't drink dairy either and so they donated to him for two weeks." (Brewer called.)

After two weeks off dairy, she was able to feed her baby again. But in the ________, because her breasts were still producing milk, she pumped and stored it for donation.

Since then she has been both a donor and recipient.

There are many reasons to give or receive breast milk. Heidi Briguglio is the Washington DC regional coordinator for Eats on Feets. She had a personal ________ for founding the chapter: "I was adopted when I was a baby. I was three days old and my parents adopted me. My mother would have done this for me." (Briguglio explained.)

Briguglio has always breast fed her 19-month-old baby Azure and has not donated milk yet. She says the number of lactating women joining breast milk-sharing communities ________ is growing worldwide.
As these groups proliferate, the U.S. Food and Drug Administration is warning against feeding babies with breast milk obtained from donors not screened for infectious diseases.

Dr. Stephen Wall is an adviser for the international organization Save the Children. Hebreast milk-sharing, but he echoes the FDA warning:

"The benefits of breast milk over formula have been demonstrated for pre-term babies, so there is a benefit in having breast milk, but only in the setting where that baby can be provided that safely without risk of infection and without risk of contamination." (Wall noted.)

Some of those risks include the Hepatitis B or C viruses, and HIV, the virus that causes AIDS. But milk-sharing groups like Eats on Feets believe the issue is an individual responsibility.

"The Eats on Feets creates the network so that mothers are able to share. But the responsibility for safety and knowing their source, getting information about how they want to handle the milk or anything like that is up to the mothers themselves." (Briguglio explained.)

For Lindsey Ward and Amanda Brewer, as for many other women meeting through the Internet and sharing their breast milk with many babies, it's a matter of trust and mother's.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 9
Asian Air Pollution not Limited to Urban Areas

Like many big cities in Asia, a blanket of smog covers Hong Kong, causing cardiovascular and respiratory illnesses.

“The air pollution problem is much (more) serious in Asia than anywhere else because of the economic growth and a lot of air pollution are producing in Asia ....” Professor CM Wong of Hong Kong University’s School of Public Health says he has found a close correlation between air pollution and death rates in China’s ________ hub - Wuhan, Hong Kong and Shanghai - as well as Thailand’s capital Bangkok.

In Hong Kong, the bad air is starting to affect the city's reputation as an international financial hub. Businesses in the financial sector say it has become harder to attract talent from other countries because of the air ________.

Half of the territory’s dirty air comes from urban transport like buses and ferries that emit nitrogen dioxide - a pollutant that scientists say can trigger complications in children with asthma.

The World Health Organization estimates safe levels of nitrogen dioxide, or NO2, should not ________ a yearly average of 40 micrograms per cubic meter.

“We can show that in one day the NO2 level can be 130, 140 something.” (Professor Wong said.)

Hong Kong University researcher TQ Thach has studied nitrogen dioxide levels for 11 years. His findings show a correlation between ________ visibility and higher death rates.

“From what I can see here, [visibility] is not more than five kilometers. We found that for every 6.5 kilometers decrease in visibility there’s an increase of 1.13 percent in deaths.” (Thach said.)

In the 1990s, Hong Kong managed to improve its air quality by tightening limits on sulfur dioxide, a potent compound that leads to higher childhood respiratory diseases and deaths among the elderly.

Carlson Chan is in charge of air quality policy at Hong Kong’s Environmental Protection Department. He says companies found ways around the ________ limits.

“When we tightened the sulfur content of industrial diesel, the resistance then was not very big, mainly because lots of the Hong Kong manufacturers have moved their factories across the border.” (Chan said.)

Just across Hong Kong’s border is Guangdong province, the center of China’s ________ industry. As the factories there multiplied, the air pollution returned to Hong Kong.
The problems are not only confined to Asia’s cities. In Northern Thailand, smog from burning trees blankets the mountains - especially during the dry season, when farmers are planting their crops.

An upland farmer defends this traditional method of clearing his field for planting. He says if it were a forest fire, it would have an ________ on air pollution. But, he says he only burns a little.

However, Chiang Mai University Professor Tippawan Prapamontol and her team found high levels of a pollutant called polycyclic aromatic hydrocarbons or PAH among mountain _________. Their levels were even higher than those of city dwellers. “OK, in the urban, it is about this, but in the rural area is about this height.” (She said.)

PAH is a compound that is found in vehicle exhaust and asphalt processing, as well as burning plants and garbage. The U.S. Environmental Protection Agency says severe ________ to PAH can suppress a person’s immune system.

“It’s very hard to tell the people that look you don’t have any problem now but you will have it in the future.” (Professor Tippawan Prapamontol said.)

Experts have called on governments for a more stringent policy to improve air quality. But even if authorities follow the WHO pollution level targets in cities like Hong Kong, it will take ________ to bring back the air to safer levels.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 10
Online Money Management Sites Cater to Young Savers

Young people now are often better known for impulsive spending than for saving money, but new youth-oriented banking websites are offering clients the information and tools they need to become better money managers and to share their financial _____ with other young people.

Alix Scott is a 19-year-old high school graduate. She’s been working at a store this summer, saving money to pay for college next year.

“I have to save for all my college money because my parents, they can’t afford to co-sign on loans. So, I have to rely on my own savings.” (Alix says.)

But rather than put her money in a local bank, Scott opened an account on SmartyPig, a web-based banking ________.

“When I do that, I overcome the impulses to just spend the money.” (Alix says.)

“SmartyPig is really all about helping people to save for very specific financial goals. So, that could be a wedding, a vacation, an i-Phone.” (Ferrari says.)

Michael Ferrari founded SmartyPig with a friend in 2007. After starting a college account for his new baby, Ferrari says he realized the power of saving for a specific goal. Helping other savers stay ________ on their goals is the idea behind his online piggy bank.

“For example, I’m saving up for a vacation. I want to save $5,000. I want to meet this goal in three years. SmartyPig will actually calculate how much money you need to allocate every month. You don’t have to move it from your existing bank. We’ll actually go in and withdraw those funds on the day you specify every month and we put it into your SmartyPig account, where they’ll actually accrue interest, as well.” (Ferrari says.)

And, Ferrari says, the site also allows depositors to get ________ help.

“Perhaps a holiday or a birthday is coming up. Rather than getting a gift, your friends and family can actually contribute to any of your SmartyPig goals.” (Ferrari says.)

Twenty-two-year-old civil engineering major Khang Nguyen likes being able to share his saving goals with his online ________.

“I think it's actually a good thing that they are able to see it. Like, you know a bunch of my friends after they find out about what I do, they always come ask me for financial advice.” (Nguyen says.)

Online banking sites like SmartyPig are attracting a growing number of young depositors, who like their convenience and services. These personal finance websites offer a variety of money management tools which help users track their spending, set
up a budget and ___________ their accounts. And they all have a social media aspect, which appeals to young adults who are already comfortable sharing their personal information online.

“There are all kinds of individuals who have their own blogs who are talking about money, creating videos, making info graphics. And you just kind of see personal finances information in places that you wouldn’t expect.” Janet Stauble is spokesperson for the personal ________ website, bankrate.com.

“It’s not likely that you might go to a friend and say, ‘Hey, I paid off $1000 on my credit card today,’ but people write up blog posts about it and they explain how they did it, how much closer they are to their financial goal, whatever it is.” (Stauble says.)

As technology _________ to evolve, she predicts more people will embrace the emerging electronic banking sites.

Steve Weisman, who lectures about financial issues at Bentley University in Waltham, Massachusetts, says the more innovative these sites are in providing their services, the more successful they will be in doing business alongside _________ banks or actually in cooperation with them.

“For instance, SmartyPig, they are not actually a bank, but they are partnered with a bank. So what you’re going to see is big banks and little banks that are legitimate financial institutions, but not necessarily the most savvy when it comes to computers or the Internet, they will partner up with other companies that may be doing some of the web material and other assistance, while the actual banking would be done through a bank with which it is connected.” (Weisman says.)

That _____________, he says, will change the way Americans save in the future.

**Questions for Discussion**

1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 11
Undersea Cable Could Revolutionize Oceanography

This past April, there was a big volcanic eruption in America’s Pacific Northwest. If you missed it, you’re not alone. It happened under the ocean off the northern Oregon coast. Since then, several ____________ ships have sent unmanned submersibles down into the undersea crater to videotape lava flows and spewing vents.

In a few years, you should be able to watch such events live on the Internet 24/7. Thanks to a new underwater fiber optic cable, a potentially revolutionary new worldwide ocean observatory is now under ____________.

"This is a big deal. (This is …) Suddenly the ocean is going to be accessible to people. We can’t take them all out there deep in the ocean, but we can bring the ocean to them." That’s University of Washington oceanography professor, John Delaney, describing his baby, a very expensive and ____________ high-tech baby.

Delaney is one of the driving forces behind an effort to wire the Pacific Ocean off the Oregon and Washington coasts for science. Delaney says the vision for this cable and instrument array dates back 20 years.

“I think I was complaining to a friend of mine in a bar. Probably, in San Francisco.” Delaney recalls bemoaning the expense and difficulty of gathering data in the deep ocean. Then the ____________ turned to new undersea fiber optic cables.

"Bingo! We said, ‘Let's do something about this. And that was a long time ago.” (Delaney says.)

Now the vision is becoming a reality. A commercial cable-laying ship has just finished spooling out 900 kilometers of fiber optic cable. One strand starts from Pacific City, Oregon, goes out to the edge of the continental shelf and then loops down toward Newport, Oregon.

Another line heads far out to sea to an underwater volcano. Separately, scientists on the U.S. East Coast are anchoring test buoys for another advanced ____________ network. This array off New England will be connected to shore by satellite and wireless links.

Scientists plan to attach dozens of instruments to the cables and buoys. Seismometers could give us a better idea about the offshore earthquake threat. Other sensors will track fish migration, ocean acidification, weather trends, and dissolved oxygen, just to name a few. Underwater microphones could capture whale calls like these hard to find blue whales reported earlier.

John Delaney says the undersea ____________ is designed to funnel a fire hose of open source, real-time data to the Internet, 24/7.
"So people that are interested - and I'm hoping it will be a growing number of people be interested - will have the ability to tap into what we're doing. They'll be able to watch over our shoulders electronically as we discover things, as we make mistakes." (Delaney says.)

One of the cool things to eavesdrop on might be an _________ volcano called the Axial Seamount. It is 480 kilometers out in the ocean due west of Astoria, Oregon. In August, Delaney steamed out there with co-chief scientist Debbie Kelley. They scouted hydrothermal vents to wire up.

"Many people now think the volcanoes on the seafloor are where life originated on the planet. One of the things we're going to see later on the dive are these vents called snowblower vents, which is where there is warm water issuing out of the seafloor at about 30 degrees Centigrade. With it, it is entraining novel microorganisms." (Kelley says.)

This summer, Oregon State University scientists and _________ are also on the water. They're testing instrument packages and buoys that will connect in part to the fiber optic network. OSU's Bob Collier says it's fair to say the data array will revolutionize oceanography.

"We really with this cable are able to provide a whole new way of looking at the ocean, which we honestly have never had before." (Collier says.)

The West Coast instrument network falls under the umbrella of a larger project with locations in other oceans. It's called the Ocean Observatories Initiative. In addition to the buoy network under _____________ along the U.S. East Coast, four additional sensor packages will be set up on moorings in the far northern and southern oceans.

Those remote, high-latitude instruments are designed to monitor ocean trends on a planetary scale. U.S. taxpayers are footing the entire $400-million-dollar construction bill on the _____________ through the National Science Foundation. The global network is about to be in full service in 2014.

**Questions for Discussion**

1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 12
Hawaii Enjoys Financial Boost from TV Show

When the original "Hawaii Five-O", a police drama, premiered in 1968, it was the first television series to shoot on location in Hawaii. It helped develop Hawaii’s TV and film industry and its number one engine - tourism.

Ever since 2010, when CBS began producing a new version, the state has been reaping the benefits. "‘Hawaii Five-O’ has contributed significantly to Hawaii’s economy, not just in production, but in what they do to help promote the destination. ‘Hawaii Five-O’ is a buzz word everywhere, whether you're on FaceBook or Twitter or you watch broadcast television. So for us, it is a huge enormous pump into our tourism economy, as well as our local economy." That’s Georja Skinner. She heads the Hawaii State Film Office. She says last year companies spent $400 million dollars filming in Hawaii, making it the state's best year ever. Hawaii has also been getting good publicity from several recent movies that were made here.

"I think the whole ‘Pirates of the Carribbean,’ ‘Soul Surfer,’ films like ‘Just Go With It,’ these are big feature films that have really showcased Hawaii in a great way. And we’re very excited about ‘The Descendants,’ a film based on a book by a Hawaii writer, Kaui Hart Hemmings, and that film will be coming out this year. It is the first time that people will see Hawaii in a different light than they’re used to seeing it." (Skinner says.)

"The Descendants' is about a man whose wife has a coma and the devastating he learns about her while she’s dying. The lead is played by George Clooney. Alexander Payne directed the movie.

"Shooting in Hawaii is one of the reasons I wanted to make this film and not just for the obvious sun and surf and all of that. My previous visits to Hawaii had taught me that there's a very interesting and complex social fabric there, that I wanted to get to know a little bit more, as much as I could, and try to represent it faithfully on screen." (Alexander Payne says.)

While luring film productions hasn’t been easy, Skinner says tax passed five years ago have helped.

"Some states will allocate funds that they give to productions to lure them there. We don’t do that here in Hawaii. The most important thing about the credit that is in our state, is that it requires a workforce development component. And the studios, and all the productions, whether they’re from locally based projects or national or international, they all use local labor."

To qualify for a tax credit in Hawaii, productions must provide internships or to the state’s public schools through funding, equipment donations or education
programs. "We compete more with global destinations, so New Zealand, Australia, Puerto Rico, often other tropical locales. But we’re much more than just a tropical location." (Skinner says.) Skinner says "Lost," the ABC drama, showed the world that Hawaii could __________ for places like Korea, Iraq, England, Africa and even Russia, covered in snow. Now, she says, the new "Hawaii Five-O" is reviving interest in the Hawaiian islands as a __________ spot.

About 10,000 people turned out to kick off the premiere of season two at a special screening on Waikiki Beach. Australian actor Alex O’Loughlin plays Detective Steve McGarrett, the head of the "Hawaii Five-O" crime-fighting team. Fans travelled from as far away as Europe and Australia to see him and other "Hawaii Five-O" __________ on the red carpet.

"I’m from Germany. And I came here for sunset on the beach and to see Alex." (said one fan.)

"I’m from a town in New South Wales. It's my first time overseas. I got a passport for this very occasion. So I’m here to see Alex and the cast and I’m so excited about it." (said another fan.)

"Hawaii Five-O" executive producer Peter Lenkov says you can’t __________ the look of Hawaii on a sound stage. "You know it’s ‘Hawaii Five-O,’ so I think you couldn’t shoot this show anywhere else. What gives it an edge? I think it’s just the people, the location. It’s just unique." (Lenkow says.)

Many in Hawaii hope the ripples from "Hawaii Five-O" continue to bring filmcrews, and along with them the economic __________ at the state wants and needs.

**Questions for Discussion**

1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 13
American Muslim Moves People from Fear to Friendship

Alarmed by the sense of mistrust of Muslims she felt after the 9/11 attacks 10 years ago, Pakistani-American Samina Sundas started American Muslim Voice to build bridges across religious and cultural divides.

Samina Sundas’ home in Palo Alto, California, is frequently filled with crowds of people from assorted backgrounds and ethnic groups, mingling in a welcoming ______ Sundas learned from her parents in Lahore, Pakistan.

“They did not treat a rich person or a poor person differently. If somebody walked in our house, regardless of who they were, they were considered guests and they were respected equally. That’s where I learned my social justice. My parents did not preach a lot of Islam, but they practiced a lot of Islam every day. So all that made me who I am today.” (Sundas says.)

College-educated in Pakistan, the young Muslim woman came to the United States in 1979 to join her husband, who was studying in California. When they divorced, Sundas supported herself by running a daycare center. But, after the 9/11 terrorist attacks, demand for her services dried up.

Sundas says she felt parents were responding to what she saw as anti-Muslim sentiment in the __________. “There are always two ways you can look at it. You can get mad or you could just look at the problem and find another solution.” (Sundas says.) That’s what Sundas chose to do. "I looked at the problem, I understood the magnitude of that and then I decided that, ‘OK, my fellow Americans really don’t know us. So the best way to deal with this problem is to just really focus on providing first-hand contact of Muslims to my fellow Americans.’ And that’s when I founded American Muslim Voice.” (Sundas says.)

Her organization’s goal is to build __________ across religious and cultural divides. She admits it hasn’t been easy. “The Muslim community is afraid. They want to hide and American Muslim Voice is telling them to come out. Do just the opposite. And while they’re afraid of just losing their identity, we’re telling them just mix up with your fellow Americans and fellow Americans are very afraid of Muslims.” (Sundas says.)

So Sundas looks for __________ to ease those fears. She works closely with other groups which advocate peace, justice, interfaith cooperation and nonviolence. She attends thousands of meetings and has traveled to Washington to speak with members of Congress.
She often hosts large dinner parties at her home, believing that people who break bread together cannot be enemies. Those gatherings also ________ a chance for inter-religious dialogue and education.

Neil Penn, one of Sundas’ Jewish friends, says she's always looking for similarities between people, rather than __________.

“She communicates, in very concrete and tangible terms, a sense of valuing other people and creating an atmosphere of inclusion. By the way she treats others, her attitude and the projects she works on takes from the depths of her faith tradition that peace and reconciliation and human dignity are not just abstractions but something that she is trying to make real in day-to-day life.” (Penn says.)

Sundas says all her work is about moving communities from fear to __________. “I think the beauty of American Muslim Voice’s work is that we have brought people together that otherwise would not have come together. Our organization is the only one that says, ‘Don’t remain separated. Don’t just remain me, mine and I. It is us. It is we. It is ours.’ So that is something that we have done.” (Sundas says.)

Sundas knows she’s set herself a difficult task. But after eight years, she is beginning to see some __________.

Members of her mainstream mosque have become more willing to support her work, putting aside the traditional resistance to female leadership. People now turn to her if they need a voice for __________ and reconciliation, and she is happy to provide one.

Sundas’ latest campaign - as she told her guests at a recent Iftar meal - calls on all Americans to open their doors on the first Sunday of each October, starting this year on October 2, to share a meal with a __________ or someone they want to know better.

"All the horrible things that are happening in this world today, they’re happening because people don’t know each other. That is the only reason. Once you break bread together, once you will have my meatballs and eggplant and all that, you would never hate me. I can guarantee you that. So, that is very, very simple. Open your doors, open your minds, open your hearts, open your souls. Let each other in.” (Sundas says.)

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?
Lesson 14
Reflections on 30 Years of HIV/AIDS

The HIV/AIDS epidemic is 30 years old. Nearly 30 million people have died from complications of the disease and more than 33 million are currently living with it. There’s a better chance than ever of living a long, productive life despite infection. But there’s still no cure or vaccine. The top U.S. official on HIV/AIDS talked recently about the early days of the epidemic and the ________ that’s been made since then.

On June 5, 1981, the first official cases of HIV/AIDS were reported in the United States among gay men in Los Angeles. The disease was around long before that. It’s just that no one knew what it was or what to call it. It was already taking a toll in Africa, where it was called slim disease. That’s because people lost so much ________ before they died.

Ambassador Eric Goosby is the U.S. Global AIDS coordinator and is in charge of PEPFAR, the President’s Emergency Plan for AIDS Relief. But it wasn’t always so. In the beginning of the epidemic, Dr. Goosby worked in San Francisco, where a lot of gay men started showing up in the ________ room.

“I wanted to treat diseases that I could cure. Not chronic, progressive diseases, but diseases I could throw an antiretroviral drug at it or an antibiotic and end it. And the first group of physicians and nurses that cared for populations who were HIV impacted was mostly infectious-disease-oriented mindsets that came at it, not kind of oncology, hospice, chronic progress disease types” (Goosby said.)

Goosby had 500 HIV/AIDS ________ during his years in San Francisco. All 500 died.

“During a period of no effective antiretroviral therapy, we got very good at diagnosing and treating opportunities infections early. One infection, two infections, usually three or four infections and then the fourth or fifth one would take the patient.” (Goosby said.) Nothing worked.

“Was this a failure in my ability to be a physician? Was I failing the patient and the family that went through the death with the patient that I was caring for?” (Goosby asked.)

When he met his patients, he knew he would be with them until they died. After seven years of this, it took a toll on Goosby and his ________.

“We all began to have more emotional liability than any of us had ever had before. I can remember seeing a stray dog on the street would upset me in a way that was disproportionate to what it should be. At the time there was a commercial about just phone home and that would well me up in an emotional kind of moment. And
everybody who was in the clinic at the time had exactly the same thing. And it was really a post traumatic stress phenomena that we didn’t recognize at the time.” (Goosby said.)

He and his colleagues began to ___________ and talk about their patients - and not just in a clinical way.

“You don’t get attached to every patient in the same way. But every once in a while you have a patient that for whatever reason you relate to on multiple levels and you grieve their loss. And acknowledging that we could do that and talk to each other about it, knowing all of us were in front of the same dilemma, made a huge difference for us.” (Goosby said.)

Goosby says when he had his first son the ___________ of what was happening became most acute. Every one of his patients was somebody’s son and they all had parents who loved them as much as he loved his.

In the following years, Goosby played a major role in developing U.S. domestic HIV/AIDS policy. And then, in the early 90s, he visited Zambia, South Africa and Kenya.

“When I came to these countries, there were three, four people in the bed. There were people under the bed. People in the hallways. You stepped over people to get to patients on the ward. That was the norm in every hospital I visited and had mostly opportunistic infections that were TB related or cryptococcal meningitis toxoplasmosis.” (Goosby said.)

That’s a brain ___________ caused by a fungus. All the patients were in the late stages of HIV/AIDS. None had received antiretrovirals.

A lot has changed since then, not only due to scientific research and greater awareness, but also because of outspoken activism around the continent, including lawsuits demanding access to new AIDS drugs.

The PEPFAR program, which began under President Bush and continues under President Obama, is credited with helping to put millions of people on antiretrovirals. By the time the drugs reached Africa, it was known that a combination of drugs worked much better than using a single antiretroviral. That meant a lower chance of developing ___________.

“Africa has benefitted from starting from day one with three drugs. You will not develop resistance if you are not replicating with your virus. So, a person who’s been on antiretrovirals, they don’t develop resistant organism because the organism isn’t dividing.” (Goosby said.)

The challenge now is to put more infected people on antiretrovirals during tough economic times. Goosby says hundreds of millions of dollars have been saved by switching to generic forms of the drugs and using trucks and trains to transport
them, rather than planes. PEPFAR will also work with the Global Fund to Fight AIDS, TB and Malaria to combine their purchasing power to drive down the cost of the drugs even more.

Goosby says they have to be smarter and more ____________. He adds the American people should be proud of the many lives the United States has saved. These days, he sees a lot more people living with AIDS than dying from it.

Questions for Discussion
1. What is the main idea of the lesson?
2. What is your reflection on the lesson?