

Forging New Norms in New Orleans: From Emotional to Ecological Intelligence

By Daniel Goleman, Zenobia Barlow, & Lisa Bennett

Just as social and emotional intelligence build on the abilities to take other people's perspective, feel with them, and show our concern, ecological intelligence extends this capacity to all natural systems.

—Daniel Goleman, *Ecological Intelligence: The Hidden Impacts of What We Buy*

In a few less-than-quiet classrooms in New Orleans, about 15 middle and high school students gathered together for five weeks during the summer of 2010 to discuss what they wanted to do about the British Petroleum (BP) oil spill in the Gulf of Mexico. This was not the way they'd originally planned to spend their summer vacation, which was envisioning how New Orleans schools could be improved by 2015, the 10th anniversary of Hurricane Katrina.

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For most of these young people, Katrina was, of course, the biggest event to rock their lives, causing some to lose family members, some to lose homes, and most to be temporarily relocated to other communities. But it was also the event that got them out of New Orleans, where both the illiteracy and murder rates are among the highest in the nation, and allowed them to see what other schools look like.

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“The bathrooms were the biggest things for me,” recalls Dudley Grady, Jr., who is now a student at Xavier University of Louisiana. “To see a clean restroom in school? I’d never seen that before. To see toilet paper, soap, mirrors on the wall that were not broken? I’d never seen that,” he repeats.

After returning home, Grady joined other students with similar experiences and, under the wise and supportive guidance of some very committed community organizers, artists, architects, media experts, and educators from New Orleans and around the nation, formed a new group called the Rethinkers: Kids Rethink New Orleans Schools. They meet in school clubs throughout the academic year and, over the past five years, have gathered every summer, concluding each year with a news conference at which they’ve announced recommendations for how New Orleans schools should rethink bathrooms, food and cafeterias, and a myriad of policies and practices to promote a climate of dignity and respect.

In 2010 the BP spill, which currently has spread over more than 170 miles of shoreline from Louisiana to Florida and raised big questions about Americans’ appetite for oil, created a new focus and a new recommendation: encourage schools to move toward becoming oil-free by 2015.

On first blush the ambitiousness of that goal might inspire a disbelieving “good luck!” But the Rethinkers have a way of getting attention for their ideas. For example, the press conference where the Rethinkers issued this recommendation attracted the *Times-Picayune*, *ABC News*, and other media outlets, as well as community and education leaders—notably, Paul Vallas, superintendent of the Louisiana Recovery School District, which was established in 2003 to turn around chronically failing schools.

“Paul is obsessed with the Rethinkers and wants Rethinkers clubs in all schools,” says Siona LaFrance, chief of staff to Vallas. “He likes that the kids are thinking and challenging authority and that all of their suggestions are based on a lot of consideration. And he likes that this is a continuing effort.”¹

Whether the Rethinkers clubs, which are now in six New Orleans schools, will end up in all New Orleans schools remains to be seen. But this much, says founder and director Jane Wholey, is clear: “If we continue to slowly and gradually add several clubs a year, in five years we can have 20 clubs. That’s clubs in about half the middle schools: enough of a percentage of the middle school population to create a culture of civic engagement in schools in this city. That is the goal.”

Breakdown or Breakthrough

At points of instability in a system—whether a school, community, or any other social system—there is the opportunity for breakdown or breakthrough. In that moment of opportunity arises the possibility for significant change through the emergence of new norms or standards of behavior that reflect the evolving values of the larger group.

What makes the essential difference between breakdown and breakthrough in a social system is leadership. A breakthrough to new norms and values requires the kind of leadership that creates a climate of trust; makes it safe to experiment; and encourages—even rewards—innovation and experimentation among the many networks of relationships that exist within the system. As Fritjof Capra, cofounder of the Center for Ecoliteracy and systems thinker, has written, “Facilitating emergence [or a breakthrough] means creating conditions rather than giving directions. It means using the power of authority to empower others. Both kinds of leadership have to do with creativity. Being a leader means creating a vision, going where nobody has gone before. It also means holding the space for the community as a whole to create something new.”²

This is exactly what Jane Wholey and the Rethinkers are inspiring in New Orleans schools. Wholey is helping students feel empowered to offer their perspective as experts on their own schooling and to contribute meaningful recommendations for reform. This culture of innovation is resulting in positive changes throughout the system. In fact, the Rethinkers are forging new norms informed not only by respect for student voices in educational reform efforts but also by a growing ecological awareness that extends empathy to all living systems.³ The fact that this is taking place in New Orleans makes their story especially relevant.

The Significance of New Orleans

New Orleans, perhaps more than any other place in the nation, epitomizes the challenge of ecological and cultural instability today, which is not simply due to the most recent tragedy. Five years before the 2010 explosion of BP’s Deepwater Horizon, which led to the largest offshore oil spill in US history, New Orleans was hit by Hurricane Katrina, the costliest natural disaster and one of the deadliest hurricanes in US history. But even before these unprecedented crises, the city of New Orleans and its schools faced extraordinary challenges.

As the *New York Times* reported:

The Gulf of Mexico is one of the most diverse ecosystems in the hemisphere, a stopping point for migratory birds from South America to the Arctic, home to abundant wildlife and natural resources.

But like no other American body of water, the gulf bears the environmental consequences of the country’s economic pursuits and appetites, including oil and corn.⁴

About 90 percent of the country’s offshore drilling takes place in the central and western Gulf of Mexico through approximately 4,000 offshore oil and gas platforms and tens of thousands of miles of pipeline. Some half a million barrels of oil and drilling fluids had been spilled offshore before the explosion of the Deepwater Horizon; and even more than that has been spilled from pipelines, vessel traffic, and wells. Moreover, bombs, chemical weapons, and other hazards,

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dumped on the Gulf floor during the 1950s, are still there, according to the *New York Times*.⁵

New Orleans schools, like the larger community in which they are nested, have a long-suffering track record of being among the worst schools in the nation. In 2004, one year before Katrina, nearly three-quarters of eighth graders were proficient in neither math nor English. About two-thirds of New Orleans schools were failing and chronically underenrolled. Some school buildings were so old and neglected that board members said they should be condemned. In addition, the system as a whole had a reputation for fraud, incompetence, and corruption (e.g., some \$71 million in federal money is still unaccounted for).⁶

When Katrina destroyed 110 out of 126 public schools in New Orleans, an estimated 90 percent of New Orleans schools were brought under the control of the Louisiana Recovery School District.⁷ Indeed, the city's schools were widely seen as central to restoring the New Orleans community. About half of New Orleans residents fled because of Katrina, and there would have to be schools for them to return to.⁸ The resulting reform effort, which has attracted reformers from across the nation, has been widely described as the “most ambitious system-wide reform in U.S. education history.”⁹

It was Wholey's insight that the students' voice should be represented in that discussion. In our view, her success with the Rethinkers rests on an integration of emotional, social, and ecological intelligence—in this case, driven by a keen instinct for creating a culture of trust and respect—that we have found essential for fostering and integrating new norms around education for sustainable living.

Writing on the role of school culture in the success or failure of any effort to bring about change in schools, Elizabeth R. Hinde, associate professor of Teacher Preparation at Arizona State University's Mary Lou Fulton Teachers College, has written:

Understanding school culture is an essential factor in any reform initiative. Any type of change introduced to schools is often met with resistance and is doomed to failure as a result of the reform being counter to this nebulous, yet all encompassing facet—school culture.¹⁰

School culture, in other words, plays a vital role in the transmission of new values and behaviors that are essential to any school change. To forge new ecological norms, it is essential to examine and engage the processes that influence the school culture—or what organizational theorists have called “communities of practice.”

Why We Need Changed Norms

The most significant ecological challenges we face today—climate change, biodiversity loss, and the depletion of natural resources—have not risen from the earth unbidden. They are the result of human behavior and values since the Industrial Revolution, which are degrading the global systems that sustain life.¹¹ For example,

our practice of burning ever-growing quantities of fossil fuels, leveling about half the world's tropical forests, and quadrupling meat production since the 1960s have all led to increases in the greenhouse effect that produces climate change and that has not been seen in 650,000 years.¹²

Clearly, these collective practices—along with the underlying value of unending economic growth on a finite planet—have not served us well. Indeed, there are many observers who have noted that such behaviors will threaten our very survival. We are living unsustainably, and the ecosystems on which we depend are showing a loss of resilience.

We need a new approach. As the Partnership for the 21st Century, an educational-readiness organization, has recommended: A 21st-century education must now become a better match to 21st-century realities. To promote sustainability, we need to cultivate values and behaviors that both honor and are consistent with the ways in which nature sustains life—and that promote the inherent resilience of living systems.

We believe that educators can do—and some are doing—just that through education for sustainable living that is grounded in the integration of emotional, social, and ecological intelligence. Ecological intelligence is a natural extension of the social and emotional learning methods that have been taught in schools since the mid-1990s. It extends the capacity of students' social and emotional intelligence to an understanding of all natural systems—melding cognitive skills with empathy for all of life. In other words, “only such an all-encompassing sensibility can let us see the interconnections between our actions and their hidden impacts on the planet, human health, and social systems.”¹³

We believe that only this integrated intelligence will enable young people to understand the hidden web of connections between human activities and nature's systems—and to act effectively on that understanding. By cultivating emotional, social, and ecological intelligence in schools, teachers help young people understand how the natural world works, see the patterns that connect human activity to nature, and develop the knowledge, values, and skills to act effectively on that understanding. In this way, teachers and schools help create a wiser and more compassionate experience for the human community of life on Earth.

Integrating Emotional, Social, and Ecological Intelligence

About 30 years ago Howard Gardner's work on multiple intelligences effectively moved a generation of educators beyond the narrow notion of “IQ” that had dominated much of the twentieth century. Schools, he argued, must not educate to one narrow notion of intelligence but to seven (later eight) forms of intelligence: bodily-kinesthetic, interpersonal, verbal-linguistic, logical-mathematical, intrapersonal, visual-spatial, musical, and, most recently, naturalistic intelligence.

In 1995 Daniel Goleman explored another significant dimension of intelligence

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in his book *Emotional Intelligence: Why It Can Matter More Than IQ*. Drawing on brain and behavioral research, he examined the factors at work when people of high IQ flounder and those of modest IQ do surprisingly well. Those factors included five critical aspects of emotional intelligence that could be nurtured in schools: the abilities to know one's emotions, manage emotions, motivate oneself, recognize emotions in others, and handle relationships.

In Goleman's book *Social Intelligence: Beyond IQ, Beyond Emotional Intelligence*, he advanced a second model of intelligence that comes into play in our relationships with others and reported on research demonstrating that our brains make us "wired to connect" and showed how this too is a critical ingredient for success in life—and a "neural key to learning."

These two books helped inform the rapid growth of social and emotional learning (SEL), which emphasizes the development of social and emotional knowledge, attitudes, and skills. For example, two states, Illinois and New York, have already passed legislation requiring schools to address social and emotional development and learning. Four other states are crafting similar legislation. And more schools have integrated social and emotional learning into their teaching and learning.

One reason that educators have been drawn to SEL is that research has shown that emphasizing the knowledge, values, and skills of social and emotional learning helps create significant improvements in academic achievements. For example, a meta-analysis of 213 studies of SEL programs found that they were associated with an average 11-percent increase in academic achievement.¹⁴

Building on this work, Goleman introduced a third and related kind of intelligence in the 2009 book, *Ecological Intelligence: The Hidden Impacts of What We Buy*. While social and emotional intelligence extend students' abilities to see from another's perspective, empathize, and show concern, ecological intelligence applies these capacities to an understanding of natural systems and melds cognitive skills with empathy for all of life.

This work on emotional, social, and ecological intelligence parallels the work that the Center for Ecoliteracy has conducted with educators over nearly the past 15 years: to support schooling that prepares students to understand how the natural world works; see the patterns that connect human activity to nature; and have the knowledge, values, and skills to act effectively on that understanding.

A nonprofit dedicated to education for sustainable living in K–12 schools, the Center for Ecoliteracy has recognized emotional and social intelligence as essential perspectives that widen empathy, nurture mindfulness, and develop new modes of cooperation that will be required if communities are to live sustainably. In its work with educators in more than 400 communities, the Center has shown that schools can directly affect student health and, ultimately, public health and long-term community sustainability by teaching students about nutrition through their lunchroom practices. Gardens create opportunities to obtain firsthand experience about basic ecological literacy concepts, such as the flow of energy from sun to plants to animals, as well as

the web of relations embodied in garden produce and thus every bite of this that we eat. The Center has demonstrated how teachers can, by starting with an environmental issue or basic ecological principles, nurture the understanding and competencies for sustainable living. (See related article in this edition of *Teacher Education Quarterly*, “A Schooling for Sustainability Framework” by Michael K. Stone, senior editor for the Center for Ecoliteracy and author of the Center’s most recent book, *Smart by Nature: Schooling for Sustainability* [Watershed Media, 2009].)

Integrating Intelligence:

Toward New Norms in the Making

“I tell kids there is no way you will ever be heard if you whine,” Jane Wholey explains over breakfast on the porch of her home in New Orleans before heading out to join the Rethinkers for another day of their summer program. “The ultimate goal for the Rethinkers is to identify a problem and solution or recommendation for change. We start with something they identify in their schools that makes them unhappy.”

But, she adds, “We know the issues. There are not 200 of them. There are a dozen or so—in New Orleans and all over.” They include school safety, cleanliness and bathrooms, availability of supplies and books, quality of food and cafeterias, the quality of teachers and teaching, extracurricular activities, and dignity—or as Rethinker Alisia Hall defined it simply as, “Dignity means love, respect, and value.”

The process through which the Rethinkers examine these issues and offer recommendations is grounded in social and emotional intelligence, which helps create the climate of trust that makes innovation possible. In addition, because of the nature of the problems facing New Orleans and, increasingly, the world at large, they are often directed toward an ecological end.

On July 21, 2006, the Rethinkers held their first news conference in front of Sherwood Forest Elementary School in New Orleans East. At the beginning of the conference, two students, Melissa and Amber Augustine, opened the doors that had not been opened since the storm. The stench, caused by the flooding and mold, was overwhelming for those gathered as they looked in at the remains of desks, chairs, and a piano still piled in a heap. Then, the young sisters lit candles on two desks left empty to honor their cousins whose lives had been lost in the storm.

Shannon Taylor, a 16-year-old, described for those gathered what the Rethinkers and other New Orleans students had “endured” in their schools, even before Katrina, telling stories of one student who sat on the edge of a table all year long because there were not enough desks and chairs and of another who never owned a knapsack—and never needed one because students were not permitted to bring books home. She also described the filthy and broken bathrooms at the school, lunches made of greasy hamburgers and donuts, and students who were unprepared for the all-important Louisiana Educational Assessment Program (LEAP) tests that

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determine whether a student will be advanced to the next grade. “No wonder that so many of us failed,” Taylor said.

Turning then to a better vision for the future, the students offered a series of recommendations that included clean bathrooms, books of their own, safe schools, teachers who love to teach, and adequate extracurricular activities.

Shortly after this conference, they issued a report about post-Katrina public schools based on a survey of 554 students they analyzed in consultation with Ted Quant, director of Loyola University’s Twomey Center for Peace Through Justice. Among their findings were the following:

- Students felt least safe and secure in schools that had security guards;
- Students gave the lowest possible rating to school food and the second-lowest rating to cafeterias and extracurricular activities;
- Only 62 percent of students, on average, felt that teachers were dedicated to and liked teaching children.

Working with architects, chefs, farmers, and artists, the Rethinkers made recommendations in 2007 for improving school bathrooms and in 2008 for improving school food. Specific examples included using local garden-fresh ingredients in cafeteria food, banning sporks (which they found both undignified and impossible to eat with), redesigning eating spaces, installing sinks in cafeterias so they could wash their hands before eating, and eliminating Styrofoam trays to minimize landfill.

In 2009 they turned to the issues of safety and dignity, recommending, for example, that metal detectors be replaced with “mood detectors,” which consisted of teams of students assigned to assess the potential for trouble as students walked into school in the morning, a “chill-out zone,” and a resolution circle with peer leaders to resolve conflicts and reduce suspensions.

Most recently, in 2010 they decided to broaden their perspective again by focusing on healing—with a keen awareness of the relationship between healing their schools and healing the earth. As Arienna McKnight said at their conference on July 15, 2010,

This summer is the fifth anniversary of Katrina. So we Rethinkers decided to dream big about what great schools could look like by the 10th anniversary in 2015. Our dream is to heal our schools and by healing our schools, we begin to heal Mother Earth.

To that end, they had two overriding concerns and sets of recommendations. One arose from their experience with crime, stress, and violence, and the fact that the expulsion rate in Recovery School District schools is 10 times the national rate, according to the Louisiana Justice Institute. Rates of suspension for minor infractions in behavior, they noted, is also high, and graduation from high school in four years is low (65.9 percent).

Thus, the Rethinkers' recommendations centered on integrating restorative justice programs to, as student Renee Smith put it, focus on repairing harm rather than punishing offenders. They also announced a \$50,000 Neighborhood Housing Services grant to put in place the Rethinkers' recommendation of a restorative justice garden at Langston Hughes Academy, one of the six schools where Rethinkers clubs are active, and to train students and staff about how to better handle offenses. The goal of the effort is to reduce suspensions and expulsions by 25 percent and reduce violent offenses by 40 percent within one year.

But the most timely theme of their 2010 conference was the Gulf of Mexico oil-spill disaster, which, some three months after it began, was finally capped on the day of the conference.

How Can Schools Help Prevent Another Oil Spill?

To young people in New Orleans, the BP oil spill in the Gulf was not as dramatically obvious as Katrina was. Houses were not under water, and they couldn't even see the oil or the ships or the helicopters or most of the news crews from the city. But "this is as big and bigger than Katrina," says Angelamia Bachemin, the director of the Jazz Hip Hop Orchestra who works with the Rethinkers.

"Katrina was devastating," 19-year-old Rethinker intern Dudley Grady, Jr., adds. "But we know this will affect our lives forever."

Still, there was the question: What could a bunch of New Orleans kids do about the spill? "This would not be about going out with nets and cleaning up the spill because it is toxic," says Wholey. "But they can help prevent it from happening again."

"The trick is always to allow it to be their show, their story," Wholey adds. "We could invite the most significant engineers to come up with solutions. But we've discovered kids almost always have things to say that are different from adults."

Her process, therefore, is to organize a series of events that help young people educate themselves and, along the way, devise new solutions. To help the students think about the role of oil, for example, she invited in Betty Burkes, the Rethinkers' curriculum developer who has worked with the United Nations and Hague Appeal for Peace in organizing the local initiation of peace education projects in Cambodia, Albania, Peru, and Niger. Burkes did an exercise with the Rethinkers to help them identify everything in the classroom that has had some connection to oil. Kids, reports Wholey, were astounded that almost everything did.

Shortly after this meeting, several Rethinkers visited the Crescent City Farmers Market on St. Charles Avenue and talked to shrimpers about how the spill was affecting them. Kay Brandhurst, whose family has been fishing (or whaling) since the seventeenth century, said she was still catching shrimp in Lake Pontchartrain, the second-largest saltwater lake in the United States. "But the oil spill makes me nervous for future seasons," she tells the students. "It's the unknown. It's the unknown that is really scary."

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There are clearly a great many unknowns. During the students' interviews with shrimpers, paramount on the minds of many was not only what future seasons will bring for them but also, more imminently, what will happen during hurricane season, which runs through the end of November? "If the wind blows the wrong way, it can pump the one little happy fishing ground we have full of oil," says Brandhurst.

With New Orleans's economy intimately tied to the fishing industry, the students have begun to understand that the larger community's future hinges a great deal on the fate of shrimpers like Brandhurst.

"How can we help?" is the students' final question.

"Lots of prayers," Brandhurst says.

In the context of the BP oil spill, like other great catastrophes, it is not unusual for people to ask for prayers. Yet the Rethinkers were committed to offering more than that as they continued to study the relationship between oil on the one hand and their schools and the larger community on the other. In the process, they reflected the ecological principle of nested systems, which reveals that nature is made up of systems that are nested within systems. Changes within a system can affect the sustainability of the systems that are nested within it, as well as the larger systems in which it exists.

In the case of living systems, cells are nested within organs within organisms within ecosystems. For example, scientists have recently become concerned to discover the presence of oil in the blue crab. That discovery "would suggest the oil has reached a position where it can start moving up the food chain instead of just hanging in the water," Bob Thomas, a biologist at Loyola University in New Orleans, told the *Associated Press*. "Something likely will eat those oiled larvae ... and then that animal will be eaten by something bigger and so on."¹⁵ The principle of nested systems, of course, also is present in human systems, including schools.

Indeed, as they continued to learn about the effects of the spill throughout the summer, the Rethinkers staged a mock trial in which they posed the big question: Who is really responsible for the oil spill in the Gulf: BP or everyone who uses oil?

Perhaps, a student named Jordan suggests by way of an answer, oil companies are a lot like gun manufacturers. If someone is shot and killed, do you blame the person who made the gun or the one who used it?

Responsibility for the spill is clearly not a simple either-or proposition. The designers and operators of the Deepwater Horizon are to blame for shortcuts, lack of preparedness, and errors in judgment that, according to the *Wall Street Journal*, likely caused the explosion. (For example, the manager appointed to oversee the final well tests had so little experience that, in his own words, he was on the rig to "learn about deep water"). The US government is also to blame for requiring BP to base its preparations on spill models that were both outdated and grossly inaccurate. (Even a catastrophic offshore spill, regulators said, should never reach shore.)

But when these 12- to 14-year-old judges delivered their verdict, the party they held chiefly responsible was the American people. This decision ultimately led to

their recommendation for New Orleans schools: Move toward becoming oil-free by 2015.

“If we want to prevent another oil spill, we need to start weaning ourselves off this product and begin searching for new ideas,” ninth-grader Danny Do, whose father is a shrimper, said during their 2010 press conference. “Now is the perfect time to get moving, and schools are a great place to start!”

“We know ‘oil-free schools’ sounds easy to dismiss because it’s such a big vision,” notes Mallory Falk, a recent Middlebury College graduate and community organizer who came to New Orleans to work with the Rethinkers. “That is why our focus over the coming year is to come up with realistic, practical ways for schools to move toward being oil-free.”

In 2010, for example, they offered four simple suggestions: start measuring energy waste (including air conditioners set too high and lights left on unnecessarily), form student green teams to identify ways to reduce waste and convince other kids to get with the program, eliminate the use of incandescent light bulbs, and recycle.

It’s a simple beginning, but stay tuned. The Rethinkers plan to meet throughout the new school year to develop more specifics. They have already received a grant from the US Green Building Council to film a documentary about their experience. They also have a pretty good track record on results to date.

“We’re now incorporating a lot of the things the Rethinkers have asked for,” says LaFrance of the Recovery School District. Sporks, for example, are out; hand-washing stations are in; and the food service provider has been asked to offer more fresh food (a request that will present new challenges in light of the spill’s impact on the shrimp industry and local agriculture.)

And what about oil-free schools?

“I think it is certainly something we can consider,” LaFrance adds.

However that pans out, this much is now clear: New Orleans’ Rethinkers are showing how a culture of innovation can be cultivated on the grounds of emotional, social, and ecological intelligence, which, in turn, fosters positive new norms throughout a school system in one of the most ecologically and educationally challenged cities in the nation.

On a more humble note, Wholey adds: “The process itself also gives the students something to hold onto. This was the great lesson of our first year after Katrina: It is, in fact, therapeutic to get people acting to right the wrong done to them. It can be big or little. But the act itself is therapeutic. To push to make schools oil-free is our way of contributing.”

Notes

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ingtonpost.com/lisa-bennett/new-orleans-student-chal_b_656128.html.

² Fritjof Capra, "Life and Leadership," Center for Ecoliteracy, October 2009, www.ecoliteracy.org/essays/life-and-leadership-0

³ Daniel Goleman, *Ecological Intelligence: How Knowing the Hidden Impacts of What We Buy Can Change Everything* (New York: Broadway Books, 2009).

⁴ Campbell Robertson, "Gulf of Mexico Has Long Been Dumping Site," *New York Times*, July 29, 2010. U.S. Section.

⁵ Ibid.

⁶ Amanda M. Fairbanks, "Fixing the Broken Parts: Can Schools Save New Orleans," *GOOD Magazine*, July 15, 2010, www.good.is/post/fixing-the-broken-parts-can-schools-save-new-orleans/

⁷ Loreal Lynch, "Achieving Greater Impact Through Model Sharing," *Stanford Social Innovation Review*, May 4, 2010, www.ssireview.org/opinion/entry/achieving_greater_impact_through_model-sharing/

⁸ In 2000, the population of New Orleans was 484,674; in 2006, it was 223,388, according to the US Census Bureau, <http://quickfacts.census.gov/qfd/states/22/225000.html>

⁹ Fairbanks, "Fixing the Broken Parts," page 55.

¹⁰ Elizabeth R. Hinde, "School Culture and Change: An Examination of the Effects of School Culture on the Process of Change," *Essays in Education*, 12 (winter: 2004). www.usca.edu/essays/vol122004/hinde.pdf

¹¹ John Rockstrom et al., "A Safe Operating Space for Humanity," *Nature*, pages 461, 472-475.

¹² International Panel on Climate Change, "Climate Change 2007," 2007.

¹³ Goleman, *Ecological Intelligence*, page 44.

¹⁴ Joseph Durlak et al., "The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions," In press, *Child Development*.

¹⁵ John Flesher, "Crabs Provide Evidence Oil Tainting Gulf Food Web," *Associated Press*, August 9, 2010, www.google.com/hostednews/ap/article/ALeqM5gbSfBPgY2bRbj5-q9JcYoh9KMizwAD9HG6TAG5.