

## Linking Place-Based and Sustainability Education at Al Kennedy High School

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### **Abstract**

*Al Kennedy High School in Cottage Grove, Oregon, is experimenting with an educational approach aimed at engaging young people in efforts to enhance the health of local social and natural environments. By collaborating with private and public partners, the school provides its students with the chance to, among other things, develop long-term forestry plans, monitor the health of local streams and rivers, remove invasive species, construct school and community gardens, and educate children about local wetlands and watersheds. The approach seeks to embody "solutions-based" sustainability education capable of convincing young citizens that they have the capacity to address the challenging environmental, social, and economic dilemmas currently facing humanity by thinking through issues and taking action within the context of their own community. The school is in part allowed to experiment in this way because its students were not successful in conventional classroom settings. Modeling a more meaningful form of education, however, is affecting teaching practices in other district schools and demonstrating how it might be possible to reshape learning experiences to improve the academic performance of students and at the same time advance the well-being of the places that support them.*

**Keywords:** [place-based education](#), [sustainability education](#), [dropout prevention](#), [environmental education](#), [school change](#), [student engagement](#)

## **Background**

The concept of sustainability is much in the news today, especially when compared with its absence when I began writing about these issues as a graduate student in the late 1980s (see Smith 1991). Then, I proposed that the creation of more sustainable societies would require nothing short of a cultural transformation—away from the focus on competitive individualism, scientific control, and the ideology of progress toward ways of understanding the world much more grounded in community, humility, and sufficiency. Back then, I could find very few examples of schools that were doing anything close to what I believed would be necessary to support movement in the direction of sustainability—aside from a growing number of programs that drew potential dropouts into school settings characterized by support and care. None of these schools, however, addressed the environmental and social justice issues that concerned me most.

In the years since, I have concentrated much of my professional life on the dissemination of an approach to teaching and learning that focuses on bringing more attention to place and community (Smith and Williams 1999; Smith 2002; Gruenewald and Smith 2008; Smith and Sobel 2010). What distinguishes this approach is its effort to cultivate among students a deepening connection to their homes, neighborhoods, and regions. In addition to nurturing connection, teachers also strive to develop in their students the capacity to make contributions to the solution of problems that are close at hand. Such experiences have the potential of nurturing the kind of citizens and stewards the present and future demand. Research completed by the Place-based Education Evaluation Collaborative over the previous decade suggests that something like this indeed does happen (PEEC 2008). A growing number of schools around the United States and elsewhere are recognizing the value of attending to the local and providing young people with the opportunity to do valuable work now, rather than only in the future (Comber et al. 2006; Cormack, Green and Reid 2006; Harrison 2010; Sobel 2004).

One of the most encouraging of these schools is an alternative program like those I wrote about 20 years ago. Located in Cottage Grove, Oregon, it is called the Al Kennedy High School and primarily serves students who are seriously behind in their effort to accumulate credits needed to earn a high school diploma. What differentiates it is that its program is focused entirely on issues of sustainability and on grounding young people's educational experiences in their own community and the surrounding region. Like Portland's K-8 Sunnyside Environmental School (Smith 2004), it has embraced the possibilities of place- and community-based education more extensively than any other school I have encountered, and in doing so, strives to help its students grasp the relationships among the environment, community, and the economy that compose the three-legged stool of sustainability.

Over the past three years, I have had the opportunity to make five visits to the school. My first trip there included a presentation to teachers about place-based education. This was followed by three day-long excursions that gave me a chance to interview the principal, Tom Horn, and visit classrooms and field sites. During May of 2010, I spent three full days in succession at the school to observe more classrooms and off-site educational settings, interview nine students (all names

have been changed), three teachers, a district administrator, community partners, and a parent about their experience of the school. In addition, principal Horn was generous with his time, answering questions that emerged for me through my interactions with others and my own observations. Horn has also made trips to Portland to give presentations about the Kennedy School at meetings I have been responsible for organizing, providing me with additional information and insight into the vision and specific elements of the school's program. Beyond observations and interviews, I have also collected information from the school's website (<http://blogs.slane.k12.or.us/kennedy/>), evaluated the school's report card and test scores at the Oregon Department of Education's website (<http://www.ode.state.or.us/>), and reviewed local news articles about the school.

Although the time I have spent at the school is brief, I feel as though I have been able to glean enough information to create a preliminary portrait (Lawrence-Lightfoot and Davis 2002) of how it operates, the challenges and opportunities it provides for educators who work there, and the kind of impact it is having on its students and on the community. Practices at the Kennedy School suggest possibilities that educators in other schools might explore in their efforts to encourage in their own students an interest in the broad topic of sustainability, as well as the shifts in disposition and the cultivation of skills needed to participate in efforts to move themselves, their families and neighbors, and their communities in this needed direction.

### **History and Programs**

The Al Kennedy High School was started in 1998 by a forestry teacher interested in creating an alternative program better able to meet the needs of students who were floundering in the conventional high school's academic classes. Although the school had enough positive impact on its students for it to be named after its founder when he retired, it suffered the fate of many special programs created for potential dropouts: low resources, a tendency on the part of the public to regard it as the school for problem students, and a gradual deterioration of its standards and offerings. When Tom Horn became principal mid-year in 2007, the school was in disarray. His first month on the job, there were four drug overdoses. Stefan Aumack, a teacher who had begun working at the school that fall, observed that there was little accountability for students, who would come and go as they chose. Attendance in his classes averaged 50 percent at best. At that time, the school featured a typical seven-period schedule with students passing from class to class with little sustained contact with adults and an education that was still primarily classroom-based.

One of Horn's first assignments for himself was to visit the homes of all of the school's approximately 60 students. A former special education teacher, he was aware of the value of working closely with families in efforts to support their children. These visits were revealing. He discovered that the great majority of Kennedy students lived in trailer parks. The level of poverty their families were experiencing in this former lumber town was striking. According to Horn, a number of the trailers were simply rotting into the ground. The benefits of these visits included Horn's awareness of the conditions the school's students faced when they

went home and the kind of pressure they felt to hide their identities. Horn mentioned that many Kennedy students ask school bus drivers to drop them off some distance from their homes so their fellow students don't learn where they live. Another benefit was that students' parents liked him. Horn is approachable, friendly, and accepting, and he reported learning that when students complained about him or the school, parents would say, "That Tom Horn is a nice guy; you do what he asks."

When I first visited Kennedy a year after Horn joined the school, things had calmed down significantly. Drug use was no longer a problem, and the structure had been changed in ways that both increased student accountability and the formation of positive relationships with teachers. Horn incorporated school-wide an idea that Stefan Aumack had persuaded his colleagues to let him adopt for his own classroom. Instead of having students pass from class to class, Aumack worked with a cohort of 15 students for the entire day. This meant that he got to know them as people, but it also meant that he knew if they were not in class. The result was that in very little time his students' attendance was at 90 percent. Aumack observed that "The kids felt a sense of obligation—more than obligation; there were very clear expectations that they were here, and it was very clear that I wanted them to be here everyday, and that they were missed if they left with somebody else for one period." All students at the school are now assigned to a cohort of 15 that works with one teacher for an entire trimester.

Horn also began a long-term effort to change the nature of students' learning experiences at the school. Drawing upon the fact that the school had access to a greenhouse and was located on 11 acres (the former site of Cottage Grove High School that had burned down a number of years earlier), he found a retired agronomist who was willing to work for Americorps wages to incorporate horticulture and gardening into the school program. When students asked about the possibility of converting an old pick-up truck that had been donated to the school into an electric vehicle, he located a retired engineer who then helped with this project. In the school itself, he found ways to incorporate skills teachers possessed beyond their academic expertise. Aumack, for example, is a skilled woodworker who created a course during which students constructed a canoe and a skin-covered kayak or *baidarka*.

In an effort to bring additional resources into the school, Horn entered into a partnership with the City of Cottage Grove that has allowed students to play a major role in wetlands mitigation projects in the area, removing invasive species and planting natives in areas that were being restored to replace wetlands lost to industrial development in other parts of the community. Dollars received from the city helped pay for a field trip to Canyonlands National Park in Utah where students had a chance to study the characteristics of a very different ecosystem. Another community project did not result in compensation, but it did lead to some very good press. When Kennedy students were removing Himalayan blackberries from the banks of the Coast Fork of the Willamette River, they discovered the millrace that once channeled water to the mill that was the reason for the community's founding in the 1800s. Local history buffs had been trying to determine the

location of the millrace but had been unsuccessful. The students' discovery led to a story in the local newspaper and accolades from civic leaders and residents. Horn noted that one of his ongoing strategies is making sure that such efforts get shared with district colleagues, the school board, and the broader public.

All of these changes had become part of the school when I first visited in February 2008. A retired biologist and early writer about sustainability named Mary Clark (1989) had gotten to know Horn and introduced him to my work in place-based education; this led to the invitation to meet Kennedy staff after school one day. In conversations before and after my presentation, I shared with Horn a plan for a sustainable rural school developed by John Cleveland (2007), an urban planner/social entrepreneur in New Hampshire. Cleveland had created this plan for a private school located in the village where he and his family live. Nothing had come of it in New England, but when Horn read Cleveland's plan, he saw its potential and used it as a template to extend and solidify innovations he and his faculty members had already enacted at the Kennedy School.

### **Enacting Sustainability**

The school now explicitly addresses five domains of human activity that have received significant attention from sustainability advocates: architecture, energy, water, forests, and agriculture. Horn has sought to develop a range of programs with community partners that address each of these issues.

### **Architecture and Energy**

One program grew out of Horn's visits to students' homes. Committed as much to social justice and equity as he is to environmental concerns, Horn was deeply disturbed by the living conditions faced by many of the young people who find their way to Kennedy High School. He realized one way to address these would be to design and then build a low-cost housing kit, similar to Katrina Cottage plans (<http://www.katrinacottages.com/plans/index.html>) that would also incorporate a variety of green elements. The cottages, for example, would have photovoltaic panels, a micro-wind turbine, super-efficient heat pump, green roof, natural ventilation, and smart metering electrical service.

Horn found an architect in nearby Eugene as well as students at the University of Oregon who were willing to help with the project. Over the past three and a half years, their efforts have resulted in a prototype design, extended conversations with the Oregon Energy Trust about their support for a school-based project like this, work with planners in Springfield, Oregon, about incorporating this kind of housing into a neighborhood redevelopment project they are considering, and the submission of a Youthbuild grant (see [www.youthbuild.org/](http://www.youthbuild.org/)) to fund the effort. Although Horn had initially hoped these modular homes could be erected on the site of one of the trailer parks that house his students, county zoning regulations prevented this. If funded, however, the grant will involve students in the construction of prototypes and the possible opportunity of participating in the establishment of a new business that would create more environmentally friendly, affordable, and long-lasting housing options for poor and working-class families in economically depressed Lane County.

While work moves forward on this effort, Kennedy students have had the chance to participate in a variety of projects with residents and teachers at Aprovecho, a research and education center located on 40 acres a few miles outside of Cottage Grove (<http://www.aprovecho.net/>). Aprovecho offers courses for college students and adults interested in learning more about the application of sustainable technologies. Kennedy students have helped with a number of building projects including the construction of a straw bale house, the plastering of the interior of another residence with materials found on site, and the fabrication of a 10,000 gallon ferrocement tank that collects rainwater run-off from one of the homes. If the grant to create the housing kits comes through, the initial prototypes will be built on Aprovecho land. The Aprovecho Center also provides a learning laboratory where students can participate in the planting and tending of a permaculture garden and the development of a sizeable aquaculture project.

What is especially striking about the learning opportunities students encounter at Aprovecho is that many of the projects also involve the application of academic skills and concepts. For example, the ferrocement tank needed to be located slightly uphill of the house it adjoins. This required learning about hydraulics to establish enough flow off the house to get the water to run uphill into the tank. Although students' exposure to these academic applications happens primarily when specific problems arise, staff at Aprovecho are working to be more systematic in their efforts to incorporate from the beginning academic skills in projects students encounter when they come to the center.

### **Forestry and Water**

This marrying of the academic to work in the field is clearly evident in forestry and water related projects. Horn and his faculty have been successful in developing partnerships with and receiving grants from the U.S. Forest Service, the U.S. Bureau of Land Management, and the Coast Fork Watershed Council. Much of students' work has involved invasive species removal. Coupled with this, however, has been instruction in the use of GIS equipment, so that students now are asked by their agency partners to record coordinates of invasive plants they observe going to and from project sites so these can be entered on maps.

The result of Kennedy students' growing skills and the relationships that have been formed between their teachers and local foresters has meant that when grant opportunities arise, the school has an increasingly good chance of receiving them. During the 2009-2010 academic year, for example, the school brought in approximately \$700,000 to support its programs, including some projects that provide employment opportunities for its students. In the summer of 2009, a team of students from Kennedy who had worked on a Forest Service project was honored for the quality of their efforts at a statewide meeting in Portland.

Students have also recently become involved with the development of a 75-year forestry plan to restore an oak savannah on 374 acres owned by a University of Oregon professor who had once worked with Horn. Bringing back the oaks will require the eradication of invasive species as well as the removal of sizeable Douglas firs that have encroached upon the previous savannah. Students are

surveying the land, taking GPS coordinates, and categorizing species such as Scotch broom, poison oak, and blackberry. Working with the property owners, Kennedy staff and students have embarked on an experiment to determine which management practices work best with invasive species. They are spraying one area, uprooting plants in another, and burning a third. Students use GPS technology to map the area and take photos over time to track changes. The hope is that they will learn about the impact of the different strategies and their effectiveness.

Work in the field is supplemented with work in the classroom where students learn about natural history and land management techniques of the Native Americans who lived in the region before Euro-American settlement. All of this new knowledge is then fed into the creation of yearly action plans, a project that has been very labor intensive in terms of writing. As Horn observes,

*[Students] have to figure out what they are able to accomplish as a crew of 15 kids, and they've got to think about this way beyond their time here at Kennedy. What is the crew [going to be doing] 15 years from now when these kids are in their mid-30s with their own kids?*

Students also gather water quality data from four sites along the Coast Fork Willamette River. In the field, students perform tests aimed at assessing the amount of dissolved oxygen, turbidity, water temperature, and coliform and *E. coli* bacteria levels. When they return to the classroom, they conduct tests to determine how much phosphorous, nitrates, and ammonium can be detected in the water. These tests require students to use a variety of advanced techniques including analysis using a digital colorimeter. The work of more experienced students is regularly reported to the Oregon Department of Environmental Quality along with data gathered from the Coast Fork Willamette Watershed Council. Horn observed that the fact that Kennedy data is almost always "spot-on" with the Watershed Council data has significantly enhanced its students' and teachers' credibility in the eyes of resource professionals. In multiple ways, the exploration of water and forestry issues incorporates a mix of labor, data gathering, analysis, and writing that blends the physical and the intellectual in a compelling manner, giving students reasons to use shovels and mattocks as well as GIS devices, water testing equipment, and spellcheck programs.

One more approach to watershed education has been especially compelling for a half dozen students involved in developing and teaching an after-school field study program for talented and gifted elementary students in the school district. They created a 12-week curriculum that explored basic ecology, flora, fauna, and the importance of wetlands. Working with the younger children, they investigated a wetland behind Bohemia School, identified native plants there, built a trail, and wrote a field guide to the area. The development of the course required Kennedy students to complete their own research about wetlands and address the same questions faced by any teacher confronted with the challenge of designing a curriculum: What should students leave the course with? How should these topics be organized? What is the most engaging way to present this information?

Students decided to focus on three central characteristics of wetlands: hydric soil, water-loving plants, and water. The first week they discussed watersheds; the second, filtration; and the third, plant identification. The activity segment focused on the development of a brochure that described plants marked on a pathway that goes halfway around the wetland. The other activity involved the construction of a bridge to cross a small creek at the end of the pathway. This meant engaging the 18 participating elementary students in learning how to measure, saw, hammer, and paint. The previous year, Kennedy students taught their younger peers about the salmon life cycle.

### **Agriculture**

The fifth sustainability theme at the Kennedy High School is agriculture, a topic the school is well situated to explore given the fact that its site, as mentioned earlier, comes with a sizeable greenhouse and 11 acres of land. During the 2008-2009 academic year, Horn entered into a partnership with an organization based in Eugene called Healing Harvest. Started in 2001 by Maggie Matoba, a local horticultural therapist, Healing Harvest works with different populations using gardening for therapeutic purposes. Healing Harvest and the Kennedy School linked up at a time when Matoba was trying to locate a site where it would be possible to establish a larger and more permanent garden. The fact that the school had a greenhouse made it even more attractive. Since coming to Kennedy, Healing Harvest staff and volunteers have expanded and solidified garden work at the school and are in the process of developing a curriculum that will anchor these activities even more firmly to students' academic studies.

A 50' by 100' vegetable garden with neatly laid out paths mulched with bark chips and healthy beds of plants can be found just east of the buildings that house the school. On the days I spent at Kennedy, students were preparing new beds and setting out vegetable starts they had planted weeks earlier in the greenhouse. Matoba observed that their commitment to the garden has increased now that many of them have become acquainted with the entire process—from seeding to harvest. She noted, as well, that this long-term involvement can lead to

*an emotional and physical investment. There's a lot of ownership, a lot of empowering qualities of doing this.... And they're kind of possessive of the garden. If somebody messes it up or whatever, they can get miffed about it.*

Part of the reason for this is that food from the garden goes first to the students at Kennedy and their families, supplementing diets that can too often be constrained by tight budgets. Other benefits of the garden are less tangible. Matoba mentioned the pride that students take in their work, the camaraderie they find in the garden, and the fact that it is "a more peaceful place." All of these aspects of the program touch on the way that working the soil and nurturing plants is therapeutic and grounding, something that many people, not only those in difficult living circumstances, can benefit from.

Students at Kennedy have also taken the lead in establishing garden plots available to teachers and community members at three of the elementary schools in Cottage

Grove. Kennedy students build the infrastructure, do all the measurements, make the beds, and then let the school staff and community members take over.

A final aspect of agricultural education at the school has involved the introduction of beekeeping. A beekeeper himself, Horn wanted to provide this activity to students at the school because of the significance of bees to the entire agricultural endeavor, the fact that they are currently threatened by colony collapse disorder, and the way that working with bees is attractive to the risk-taking proclivities of many of his students. Although beekeeping when done correctly is quite safe, students' fears about being stung encourage a kind of attentiveness that is pertinent to all educational activities. Once Horn was able to convince district administrators about the advantages of having bees at the school he established three hives that a half-dozen interested students are now helping to maintain. Students also construct hives, help Horn collect swarms, and provide instruction to novice beekeepers in their community.

### **In the Classroom**

In addition to visiting field sites and interviewing educators, students, and others associated with the school about these sustainability-focused activities, I was also able to visit two classes during my three days in Cottage Grove, one taught by Stefan Aumack and the other by a long-term substitute. Each gave me some insights into ways adults at Kennedy High School organize instruction and seek to engage students intellectually in classroom settings.

Along with their forestry work, Aumack's students had also been learning about climate change. This class period was devoted to playing the Thingamabob Game, a simulation developed by educational activist Bill Bigelow to encourage students to think about the relationship between economic assumptions regarding production, wealth creation and global warming

(<http://www.rethinkingschools.org/static/climate/TheThingamabobGame.pdf>).

Students in small teams create imaginary "thingamabobs" they are able to sell at a profit that can then be reinvested in the production of more thingamabobs.

Students are told at the outset that in addition to producing money for themselves, each thingamabob they manufacture also produces carbon dioxide. The team with the most money at the end of the game will be given candy bars, but if the class as a whole exceeds a certain level of atmospheric carbon (beyond 420 parts per million)—something students will only learn after they have completed four rounds—no one receives anything. Bigelow says that he has never known a class not to exceed the carbon level and fail to win the candy (Bigelow 2008). That is what happened in this classroom, as well, although a group of students from early on minimized the number of thingamabobs they produced and raised the alarm about what their classmates were doing.

At the end of the game, Aumack asked, "What happened?" Here are some of students' comments:

- "Everyone competing for the highest profit undermines people who want to protect things."

- “We got greedy. The more dollars we made, the better we could make our company.”
- “We should have had a conference and tried to come up with a way for all us to tie.”

As a follow-up to what they had just experienced, Aumack asked students to think about which rules could be added to the game so that production would not exceed environmental limits. One student observed that, “We should reward reduced carbon dioxide rates. This way we could allow for competition but get reduced carbon dioxide.” Aumack finished by indicating that during the next class they would be learning about different regulations aimed at reducing greenhouse gases. The big question was to figure out how to benefit the earth and benefit humanity—and to put a value on reduced carbon emissions.

Unlike much of students’ work at the school, this simulation had no real-world applications accessible to them. Still, it put these young people in the role of actors whose failure to question common assumptions about the competitive pursuit of self-interest placed the climate in jeopardy. By doing so, the activity elicited emotional and intellectual responses that clearly suggested the degree to which students had become engaged in this issue. The activity furthermore required them to participate in a process that respected their ability to reflect upon the significance of their own decisions and to make up their own minds. To some extent, what happened in this class contrasts with what I observed in the class taught by the substitute two days later.

This class also featured a discussion about an environmental issue that was then dominating the news—the British Petroleum oil spill in the Gulf of Mexico. In this instance, however, the substitute’s opinions dominated. He observed that the drilling process had been driven by greed for profits and too much confidence in the oil company’s own failsafe plans. Countering this position, one student said that more than money was involved. “Without oil, we’d have to stop our factories.” A conversation about the difficulty of replacing fossil fuels with alternative energy sources and technologies like hybrid cars ended in two rhetorical questions from the substitute: “Who’s got the power? Why are they preventing this?” One student noted that the “course is getting pretty bleak right now,” and another responded to the teacher’s second question about getting people to be concerned about “something that isn’t in our own backyard,” by asking, “Why let it ruin your day? I really don’t care if turtles in the Gulf of Mexico die out; they bite, anyway.”

At this point Horn, who had been observing parts of the discussion, intervened. He asked students if they knew that houses along the Row River not far from town and just upstream of some popular swimming holes released sewage directly into the river. The houses had been built in the 1950s when the area was more lightly settled than at present. Builders and homeowners figured that the water treatment plant further downstream would take care of any pollutants before they became a problem. Making the issue more complex and generalizable, Horn then discussed the way pharmaceuticals flushed down toilets can end up in watersheds even after they’ve gone through treatment plants. He concluded by saying that given the

increasing population density of the Willamette Valley, it is vital for everyone to realize “that we all live downriver” and presented this challenge to students: “Can we still have Chevys, sewage treatment plants, and run them off the sun? Can we somehow tap into good jobs to fix these issues? Why not think about what you can fix? We could be Green Warriors. The Row River is in our own backyard.” Horn then asked them to speak with a neighbor for the next three or four minutes and together develop ideas about how to deal with the problem of pollution in the Row River.

Afterwards Horn said that he is aware of the fact that his being in a classroom can make a substitute nervous, but he feels it is important to model instructional approaches more likely to engage Kennedy students and link the broad topic of sustainability to their own lives. As in Aumack’s class, the instructional approach modeled by Horn engages young people as problem solvers whose ideas and energy are worthy of respect. This solution-oriented perspective also skirts the danger of bleakness by inviting creativity and imagination. One of the ideas that emerged from the ensuing discussion involved the creation of a pill drop-off facility to eliminate the problem of pharmaceuticals in local rivers. Summing up the class, Horn observed to students that “If someone came up with a solution, could they make money? If you’re going to solve a problem, you need to know how to begin dealing with it now,” affirming a common theme at Kennedy: the school’s students have the capacity to improve the context of their own lives and the lives of the people around them. This is a message emphasized in the field and in the classroom.

### **Impact on Students, Families, Community**

Students at the Al Kennedy High School are given regular opportunities to explore human practices that are calling into question the sustainability of industrial civilization and the chance to participate in efforts to move society in different directions. Course studies and fieldwork at the school immerse them in discussions and service learning projects that link together academics and work in their community and region. These experiences, furthermore, are providing the school’s largely low-income students with job opportunities and even food to ease some of the challenges they encounter because of their family’s economic circumstances. Observations made by students, educators, community members, and a parent point to the effect that learning in this way is having on Kennedy students’ experience of school and their sense of membership in the broader social and natural communities of which they are a part.

Central for students at Kennedy is the cultivation of care (Noddings 2005). This process has four elements. First, students find educators at the school who are willing to care for them. Second, they are encouraged and supported in their efforts to care for the other people they encounter at the school. Third, they are provided with experiences that lead them to care about the community of Cottage Grove and the natural world within and around it. And finally, they are helped to recognize that the care and attention they bring to the immediate environment is something that can be transferred to the broader world.

Encountering the care and empathy of their teachers, principal, and other staff at the school, as well as the empathy expressed by students who have been at Kennedy School for longer amounts of time, they come to experience and act upon their own inclinations to empathize. As Ryan King, an Americorps volunteer, observed,

*Sustainability is all about empathy. It's all about understanding that driving your car is going to affect somebody in Bangladesh, or cutting down a tree will affect a bird population, making those connections, and I think that it's empathy that drives that connection.*

When Lance, a potential student, came to the school, his probation officer warned him he might not be accepted. Just out of juvenile detention with a wrist broken in a fit of anger, he didn't know what to expect. One of the first things he told Tom Horn in his admissions interview was that he had a problem with anger management. Horn replied that his problem wasn't so much with anger management as with being able to win more than lose. His nine months at the school resulted in his belief that it was the best school he had ever attended. And the result was his willingness to participate and learn. Just a few weeks away from receiving his high school diploma, he was able to observe that,

*At other schools, the kids don't really care what the teachers think. It's a lot closer environment [at Kennedy]. You interact more with every teacher and staff member, and I actually care what they think. I want to make them proud. It's like they're family.*

Crystal and Jennifer, two other students who like Lance were about to graduate, spoke similarly about the transformations they had gone through during their time at the school. Crystal had originally transferred to the Kennedy School shortly after Horn became principal. She said that

*Kennedy has changed me a lot. I went from being somebody who didn't care about anything. I did whatever I wanted whenever I wanted. And I found a whole lot of respect and other things like people and your surroundings, everything. And I see beauty in little things and I care a lot more.*

Jennifer had just come to the school in January, but even in that short time had been changed by what she found there. As a senior at Cottage Grove High School, she had fallen behind on credits and then opted to come to Kennedy because of the independent study courses that allow students to make these up so they can graduate on time with their age-mates. Before Kennedy, she hadn't even considered going to college, but after working with teachers who showed her how to do things right "rather than just reading about it," she decided to pursue college with the intention of eventually becoming a pediatrician. Like Lance, she had blossomed under the guidance of "teachers [who] are really respectful. They help you. It's like one family. It's not a clique."

Dylan, too, spoke of this inclusive atmosphere at the school. Dylan was a ninth grader whose education the previous few years had consisted of home schooling, classes in American Sign Language and math at the local community college, and a few courses at Lincoln Middle School. Aware of the fact they couldn't offer Dylan the breadth of education his emerging talents required, his parents met with Horn to see whether the Al Kennedy High School might be an option. They decided to experiment with the school, aware of the public perception that its students were primarily troubled teens. According to Dylan's father, Doug, "The school has been nothing short of amazing." It provided Dylan with exactly the mentors he had hoped to find. Part of the reason for this was that it offers such a safe and supportive environment for all of its students, something that students, themselves, are responsible for creating. Dylan observed that

*People reached out to me and everybody else. Like a new kid came just a couple of weeks ago, and everybody was like, 'Hey, what's going on, what's going on with you? How you doing? This is what we're doing. Do you want to come?' So the students kind of grab hold of other students, and sometimes students even grab hold of teachers and say, 'Hey, welcome to my school,' and introduce them to everybody. I've never seen one student come here and completely shut off.*

This kind of easy acceptance and inclusion can be seen as boys and girls together play a pick-up game of basketball after school or as they put away their gear following a day of pulling blackberries or Scotch broom. They smile and laugh easily, something that Dylan's dad noted, contrasting their behavior at school with the way some of them drag their feet, heads lowered, before they get to Kennedy in the morning.

This does not mean that there are no conflicts at the school. However, what happens there is that adults guide students to handle their differences in ways that do not result in a sense of condemnation or fear. On the day I arrived, Horn had spoken with one cohort of students about racial comments and drawings that had been directed to the school's single Black student. He began his talk by asking students if they knew that he is Jewish (along with Irish and other ethnicities). He then asked if they had ever heard the expression, "He Jewed me." A few knew that this meant that someone had taken advantage of another person. Horn said that this was offensive to him. This then led to a conversation about racial slurs, with students saying they only meant these in jest. Horn followed up by saying this isn't how these terms feel to people who are the objects of the joke. He went on to say there would be no tolerance for racism at the school. The next incident he learned of would result in a suspension; an incident after that, expulsion. He made it clear that students who make other students feel unsafe and do not change their behavior cannot remain at the school.

In addition to making sure that the school is a safe place for students, adults at Kennedy also make sure that students come to see themselves as people able to make the lives of others better. This kind of affirmation can unfortunately be rare, especially for young people who come from low-income and socially marginalized

families. Horn observed at one point that the messages they receive from teachers or school principals when they get into trouble often focus on their being worthless or dangerous. According to Dylan, this doesn't happen at the Al Kennedy High School. Horn and the teachers there instead "show kids what they are capable of." They do this by providing a rich variety of opportunities for students to do work valued by the community. This then leads the students to want to engage in these efforts. Ryan King noted that when the students involved in the wetlands class at the elementary school began teaching, they were very nervous about working with younger children. But in overcoming their own fear and finding success in doing so, they came to develop a deep commitment to teaching, enough so that some, including Dylan, have begun to envision themselves as teachers.

One of the encouraging results of the school's emphasis on what Stefan Aumack calls "solution-based sustainability" is that students come to see themselves as people capable of addressing problems regardless of where they are located. He reported that in the aftermath of the Haiti earthquake, "the first thing his students said is, 'Let's do a shoe drive or something.' They might not have thought through all the pieces, but the desire to do something to improve the world is definitely there." In this instance, students' desire to have an effect led to the creation of a film that documented their investigation of social conditions on Haiti, presented their evaluation of six charitable organizations involved with relief efforts there, and included footage of a plant-a-thon they organized which raised approximately \$1800 that was then sent to two of these organizations—Partners in Health and Trees, Water, and People. This fund-raising project speaks to the way that people in specific localities can take action where they are to help others wherever they may be. Treated with respect and care, Kennedy students responded in a remarkably proactive way to this distant catastrophe.

Aumack believes that the experience of community undergirds students' academic growth at the school, as well. He sees it as the "key to hooking them into anything else that you're trying to do with them." After this foundation is laid, then Aumack seeks to create content aimed at getting "these students empowered to think." At the heart of this endeavor is learning how to ask good questions.

*This is what I preach everyday if I preach about anything—that the question is more important than the answer. We'll find the answer, and I'll teach you how to find the answer, fine, but you've got to ask the good question. You've got to come up with those essential questions. And then [we] use those questions that the students come up with to drive the inquiry.*

The result of this effort, according to Chris Parra, the South Lane School District's Director of Special Services, has been the creation of a set of educational opportunities that is doing more than simply getting kids through school. It does this "by giving students experiences that will make them want to stay in school and be better community members." Kennedy's turn-around in the past three years has caught the attention of other educators who are, in Parra's words, "awed by the progress made there." The district's one K-8 school is now seeking to emulate what has been done at Kennedy, and a handful of teachers at the mainstream high

school are beginning to incorporate field studies and service learning opportunities similar to what happens at this “alternative” school into their own curriculum. When a half-time position became available at Kennedy this spring, a number of teachers from within the district sought to become candidates, something that demonstrates the community’s changing perception of what happens there. Even though Cottage Grove High School is a high-performing institution with one of the state’s lowest dropout rates, the teaching and learning opportunities the Al Kennedy High School provides are attractive to them. And attractive to regular students, as well, a growing number of whom now seek to transfer to Kennedy to participate in its more community-based and authentic educational opportunities.

Accountability measures used to determine school performance are beginning to acknowledge the shift that is taking place at the Al Kennedy High School. Dropout rates have decreased significantly, from 15.9 percent in 2006-2007 (Oregon Department of Education 2009) to 7.3 percent in 2008-2009 (Parent 2009). In June of 2010, 30 out of 32 seniors were able to earn their diplomas (Horn 2010). Performance on state tests is also demonstrating a gradually improving level of academic achievement (Oregon Department of Education 2010). For example, fewer than 5 percent of Kennedy students met or exceeded writing standards in 2006-2007 and none achieved the “nearly met” category. In 2008-2009, 9.1 percent were in the met or exceeded categories, with 27.3 percent nearly meeting these. In 2010, more than 36 percent met or exceeded writing standards, although in this testing period only 11 out of 23 students took the test. In math, fewer than 5 percent met or exceeded the standards between 2006-2007; in 2010, that number increased to 18.2 percent. In reading, 21.4 percent of students met or exceeded standards in 2006-2007; in 2010, 31.8 percent did. So students who take these tests are, overall, demonstrating higher levels of academic achievement. There remains, however, much room for continued growth.

A possibly more accurate representation of the transformation in the educational experiences students encounter at the school are comments from John Driscoll, a representative of the Weyerhaeuser Family Foundation from St. Paul, Minnesota, Lin who traveled to Cottage Grove in 2009 to determine whether the school should be the recipient of a \$33,000 grant aimed at educating Kennedy students about forest management in the Deschutes National Forest. After visiting a tree farm managed by the school, he said,

*I was personally blown away by what they were achieving. I loved the way they had become involved with getting kids into the outdoors, with taking the curriculum outside and applying it to real life. It’s a great teaching experience for the experiential learner, and the school is providing a replicable experiment that can be duplicated at virtually any high school (Stinnet 2009).*

When Driscoll returned home, he joined other foundation representatives in unanimously recommending the grant. He has not been alone in his praise of what is happening at the Kennedy School. The school’s track record in receiving other grants speaks for itself, as does the growing recognition on the part of parents and

the public that the learning students encounter there is preparing them for further education and a successful transition to participation in community life.

In my interview with Dylan, he spoke of the way his experiences at Kennedy were leading him to think about his own role in the community.

*If you come to this school, you'll not be a follower, you'll be a leader. That's pretty much prepping me for when I go out into the real world. I'll not be some person following around others; I'm going to be a leader out there saying, 'Hey, this is what's going on, this is what we need to do, let's get on it.'*

I encountered this kind of confidence from nearly every student I interviewed at the school who when they spoke of their futures unhesitatingly shared their dreams of becoming a cultural anthropologist, a physician, a linguist, an expert in nanotechnology, a pastry chef, or an anime artist. Young people at Kennedy are invited to dream their dreams and find ways to realize them. Teachers there tap rather than squelch this fundamental human energy. It is this kind of energy and the creativity associated with it that will be needed to fuel the cultural and technological transformations required in the coming decades as our cultures make the necessary shift to just sustainability.

### **Challenging “Real School”: Risks and Opportunities**

The Al Kennedy High School is making notable contributions to the community of Cottage Grove and positively impacting many of the young people who find their way to the school's classrooms and teachers. It would be naïve, however, to believe that successfully disseminating this model to other school districts and communities will be easy. Over 20 years ago, Robert Stevenson (1987) spoke of the disconnect between the aims of environmental education and the tendency of most public schools in the United States to avoid the forms of inquiry, action, and potential controversy associated with a serious consideration of social and environmental ills.

In a special issue of the journal *Environmental Education Research* (April 2007) devoted to a reconsideration of Stevenson's earlier position, I argued that place-based education provides a way to engage young people in learning activities that at least on occasion do involve them in local actions that support what David Gruenewald (2003) has called reinhabitation and decolonization. Reinhabitation refers to efforts aimed at restoring the health of local social and natural systems; decolonization involves questioning and then challenging practices that have resulted in the oppression of people and degradation of habitats. In his introduction to the special issue, Stevenson wrote:

*In two of Smith's three examples of place-based education from schools in different parts of the United States, 'the powerful constraints of conventional schooling came strongly into play as teachers pushed against the expectations and assumptions of administrators or some community members' (this issue, p. 202). Consequently, he laments the rarity of*

*educators embracing the political and transformation vision informing the work of a few exceptional teachers that he describes, and he acknowledges that while their work often contributes to reinhabitation, it only occasionally takes on decolonization (Stevenson 2007, 134).*

These constraints, tied into what Seymour Sarason (1996) has called the behavioral and programmatic regularities of school, dominate most schools and inhibit teachers and administrators from embracing teaching and learning practices that might lead people within and without the institution to question whether what they are doing matches the common vision of what a “real school” should be (Metz 1989).

Educators at the Kennedy School are constructing a model of teaching and learning that challenges in deep ways those regularities. One of the reasons behind their ability to do so is linked to the fact they are working with young people who have not been successful within regular schools. Given the degree to which their families are economically marginal, their failure does not carry the same significance as the failure of more affluent children. Experimentation can therefore be more easily tolerated by the educational system. Despite this, and the fact Horn has the support of a progressive and well-regarded superintendent, he relates his work as a school principal and reformer to an experience he once had while traveling with his wife in Guatemala. To get some relief from a crowded bus traveling through the mountains, he joined local *campesinos* on the roof. He was riding along blithely enjoying the scenery until the bus rounded a hairpin curve and he looked down at a collection of crosses below him from bus accidents in the past. As he has worked at the Kennedy School, he has become increasingly aware of the precarious nature of his position.

When questioned about this, he indicates that student achievement at the Kennedy School is beginning to reach a plateau that he fears will eventually not be enough to satisfy district or state expectations. This is especially true because of the school’s incorporation of unconventional learning strategies to enhance student engagement. Using project- and place-based educational approaches as opposed to more traditional classroom-based techniques aimed at improving test scores will stop being accepted if the achievement gap between Kennedy students and those in the conventional high school is not closed. Furthermore, Horn states,

*If all of a sudden we try an experiment because we want kids to garden on a large scale and that takes infrastructure development, and I [then] see data that starts looking bad with regard to our reading and writing scores, we’re going to be highly criticized for that.*

Horn is also concerned about the possibility that the additional funding that has supported a wide range of educational innovations at Kennedy will begin to diminish. At the moment because of external support for sustainability initiatives attractive to foundations, Kennedy has more money per student than Cottage Grove High School. But he doesn’t “think we will be able to continue to fund Kennedy to the extent we have just continuing doing what we are right now.” All of

this means that the sustainability of a school that has been successfully focusing on sustainability issues is far from assured.

Despite these significant challenges, what is hopeful at the Kennedy School is the degree to which the model of education being developed there is gaining public recognition and the fact that successful students at the conventional high school are interested in gaining access to it. Educators at Kennedy are currently giving preference to students who most need their support, but, as mentioned earlier, other teachers are beginning to adopt similar approaches. One of the physics teachers at Cottage Grove High School, for example, has been working with Aprovecho staff on the development of units that have immediate applicability to the local community. During the 2009-2010 academic year, a physics class he taught for female students created tests to determine the strength, flammability, and ability to resist moisture of different alternative building materials currently outlawed by county building codes in an effort to make it possible for more people to use earth-friendly building practices in the construction of their own homes. Over time, more teachers will hopefully begin innovating in similar ways.

This kind of development has encouraged Horn to imagine other structural possibilities that would go even further toward moving secondary education in new directions. For example, he now thinks of creating a special twelfth-grade program for interested students throughout south Lane County that would provide all interested and not only struggling students with opportunities to become sustainability leaders in their communities. Such a program might, for example, give youth a chance to spend a year learning what's needed to become certified as a master gardener, or acquire a range of building skills by working on Habitat for Humanity projects, or participate in a project aimed at mapping the location of wild bee hives throughout the region with the aim of assessing the health of pollinators. Such a venture would be filled with new risks because this kind of school would compete for resources with conventional high schools and contribute in an even more direct way toward a redefinition of "real school." If Stevenson is correct, however, the only way to make this kind of schooling more available may require deeper changes in the thinking of both policymakers and the public about the purposes and possibilities of public education. Educators like Horn and institutions like the Kennedy School could well be laying the foundation for such a transformation.

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