



Peter Skelton, left, teaches area students how green things grow. Skelton leads Memorial Middle School Ag Science Center.

Courtesy photo

Educating youth about sustainability

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Peter Skelton

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Now that sustainability has entered the mainstream, young people need to understand what it means and how it applies to their lives. At the Memorial Middle School Ag Science Center, the educational focus is on four specific areas of sustainability: renewable energy, water conservation, composting and food

water catchment system. Students can learn about pv systems and monitor energy production. To directly engage the students with the technology, they will be building solar car models. The center plans to install a wind turbine that will supply another 33 percent of the greenhouse electricity needs that will also comple-

ing water. Other water conservation at the center includes demonstrating multiple types of irrigation techniques in the field, and plans for developing and demonstrating low water use gardens.

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processes. Additionally, composting campus green waste diverts a usable material from the waste stream that would otherwise end up in the landfill.

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Fifteen years ago, when I first took a course in sustainable agriculture, if you mentioned the words sustainable and food systems in the same sentence you were sure to get a look. You know the look. The one that makes you feel like you’re way out there in the backwaters, far from the mainstream. But it’s in those backwaters where the important processes are taking

place.

Now that sustainability has entered the mainstream, young people need to understand what it means and how it applies to their lives. At the Memorial Middle School Ag Science Center, the educational focus is on four specific areas of sustainability: renewable energy, water conservation, composting and food systems. The center’s goal is to increase student awareness about sustainability in general and how to apply the concept in a contextual manner to emerging issues affecting sustainability.

The center engages students with two different demonstrations of photovoltaic (pv) panels. One pv panel is tied directly into the greenhouse providing about 25 percent of electrical needs, while the other pumps water from a

water catchment system. Students can learn about pv systems and monitor energy production. To directly engage the students with the technology, they will be building solar car models. The center plans to install a wind turbine that will supply another 33 percent of the greenhouse electricity needs that will also complement in class activities surrounding wind energy.

As well as minimizing the center’s energy footprint, we are also interested in minimizing our water footprint. On either side of the center greenhouse downspouts, water is captured and stored in two 500-gallon catchment tanks to demonstrate water capture, storage and reuse. Water is pumped from the catchment tanks to raised beds, the compost pile or planted areas around the greenhouse need-

ing water. Other water conservation at the center includes demonstrating multiple types of irrigation techniques in the field, and plans for developing and demonstrating low water use gardens.

Using renewable resources plays a big part in center function. At the center, we try to compost as much onsite material as possible. For example, vegetable waste from the garden is composted by worms to be used in greenhouse plantings. Green waste from the football and baseball fields is composted and used to amend soils used for agricultural production. Composting is essential for teaching about reducing waste and to improve soils used for producing high quality vegetables and fruits on campus. Composting gives youth an upclose view of the food web and decomposition

processes. Additionally, composting campus green waste diverts a usable material from the waste stream that would otherwise end up in the landfill.

A key educational objective of the center is to engage youth in hands-on, experiential learning opportunities in agricultural systems. Students sample soil for fertility, utilize appropriate technology to plant the crop, monitor crop quality, examine insect and weed interactions, and learn about the importance of crop rotations. Establishing an outdoor garden has allowed our young learners to interact with the physical landscape, understand the interactions that are taking place in the field, and discover how easily they can produce good tasting food for

Educating youth ...

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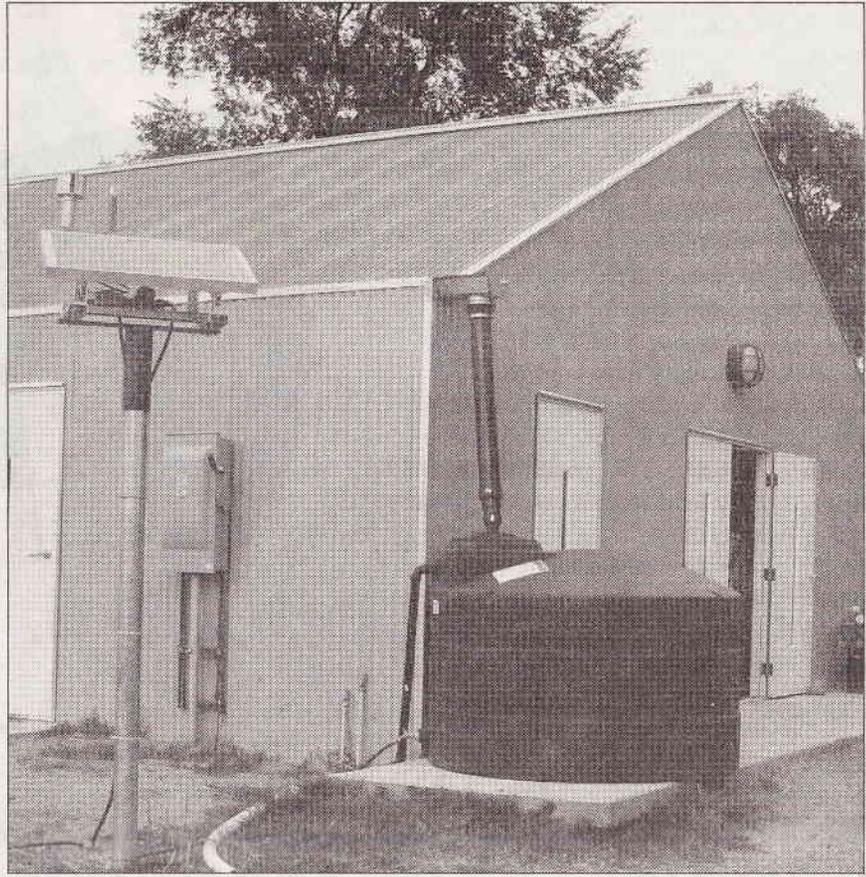
themselves. At the end of each school year, students take home several plants they started from seed in the greenhouse to encourage home gardening with their family.

These topics can also be put into practice at home and are a great way to interact with youth. You don't have to have a pv panel or wind turbine to teach youth about renewable energy at home. There are many good web sites on the Internet to engage young people in renewable energy activities, like building a solar oven. Building a rain barrel can be a fun way to engage a young learner in water conservation activities to show them how water can be captured, stored, and reused at home. Building a compost pile with a young

person is a great way to teach about recycling and reuse, decomposition processes and soil improvement strategies. Compost can then be used to plant a garden with your family to grow fresh, nutritious food.

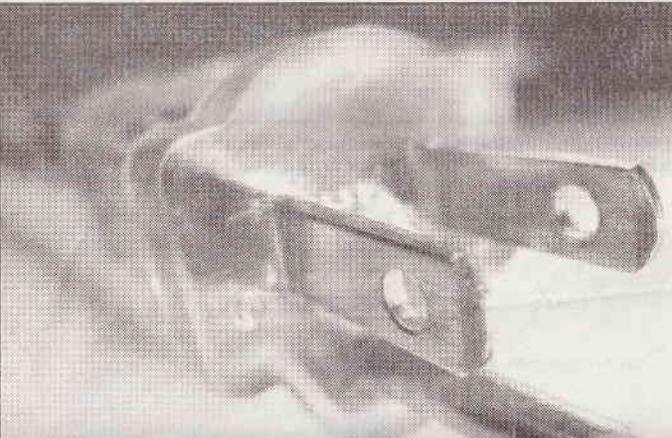
It's important that we teach students about how sustainability of the earth's ecosystem affects them. Young people need to understand that they can minimize their impact on the environment through the choices that they make. If we can guide them to make good decisions, we will leave the world a better place.

Peter Skelton is an assistant professor in the Department of Agricultural and Extension Education at New Mexico State University and director of the Memorial Middle School Ag Science Center.



Walking the walk at Memorial Middle School — a rooftop water catchment, a cistern and a solar powered pump.

Courtesy photo



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