

YouthBuild USA
YouthBuild Innovations

Creative and Effective Practices from YouthBuild Programs

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**Cobb County YouthBuild design charette
sparks student creativity; increases
knowledge of sustainable building practices**

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- Lance Wise, Director, Cobb County YouthBuild

Editor's Note:

Green Building is quickly becoming a national trend among local YouthBuild programs. While some programs have started full-fledged green building projects, others, like YouthBuild Cobb County, have started with smaller-scale initiatives. This is the first in an occasional series featuring green building practices at local YouthBuild programs.

In this story, we find out how Cobb County YouthBuild exposed students to sustainable building practices through a hands-on learning experience. It culminated in a charrette simulation where professional architects from the Atlanta Office of the American Institute of Architects exposed young people to the idea of green construction and then encouraged them to imagine what a building built according to these principles might look like. It was an informative, fun, and exciting experience for the students. In the process, they learned about sustainable building practices, and learned about the field of architecture and design.

This story illustrates the power of project-based learning where students learn key concepts by participating in a project. It is an example of how to expose students to careers related to the construction industry. The other striking feature of this practice is the care the architects took in facilitating a way for students to experience the impact of building design on the community. As a result, we also witness a miraculous unfolding of the positive, creative energies of YouthBuild Cobb County's students! This is a fine example of leadership development in action.

To get an update on YouthBuild Cobb County's work, contact Lance Wise, the Director of Cobb County YouthBuild at (770)429-4400 and lwise@cobbhousinginc.org

Special thanks to Tammy Miller, the Georgia State Coordinator for YouthBuild USA for bringing this story to our attention. We also appreciate the support of the Department of Housing and Urban Development's Capacity Building Initiative and the Home Depot Foundation for funding this issue.

We would love to hear from you. If you have any comments or story ideas, please e-mail me at dwright@youthbuild.org.

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How did the project get started?

Traditionally, the Atlanta Office of the American Institute of Architects' (AIA) Committee on the Environment (COTE) has funding for *Greenprints*, an annual local green building conference. With a small budget surplus this year, the COTE wanted to work on a community project that involved young people. Joe Martin of the AIA-COTE chair in Atlanta eventually contacted the YouthBuild program at Cobb County Housing, Incorporated. The purpose of the project would be to expose young people to sustainable building practices.

Students at YouthBuild Cobb County learned about sustainable building practices and then assumed the role of architects designing a house for one of their future sites. They presented their completed designs to each other during a simulated design charrette. Members of the AIA and members of other collaborating organizations also participated in the simulation.

A charrette is a type of gathering used by professional architects to bring together a variety of project stakeholders to understand the implications of a design concept.

Who was involved?

The project involved a number of partners. Joe Martin of the Atlanta office of the AIA met with Lance Wise, the Director of Cobb County YouthBuild and the Chief Operating Officer of the

Cobb County Housing, Incorporated and the Development Director of Cobb County Housing, Michael Miller.

The AIA- COTE also worked in conjunction with the Community Housing Resource Center, a non-profit architectural office providing design services to under served communities in Atlanta. Architects Andy Scheggenburger and Laura Shipman from the Community Housing Resource Center helped facilitate this event.

The Southface Energy Institute (www.southface.org) provided the facility and some of the training for the event. Southface's mission is to advise organizations to develop sustainable building practices in throughout metropolitan Atlanta, as well as Chattanooga, Tennessee; Charleston, South Carolina; and Marietta, Georgia where Cobb County Housing, Incorporated is located. They are the premier organization providing education and building services related to sustainability in the Cobb Housing service area. Mike Bercik and Marie Reedy of Southface also worked with the students.

Jeff Christian from Oak Ridge National Laboratory participated in an orientation session with students. He talked about how Habitat for Humanity was promoting energy efficient construction techniques, nationally. He also talked about his work designing Habitat houses that rely primarily on solar energy.

Tammy Miller, the Georgia State Coordinator from YouthBuild USA, was also involved to find out how this effort could be replicated at other YouthBuild programs.

What did they do?

A two-day workshop

Joe Martin and his team at the AIA met with the students before the project began. He and his colleagues then prepared a two-day, interactive workshop on the science and practice of sustainable design and building practices. The first day, YouthBuild Cobb County students toured the facilities at Southface Energy Institute. Students toured a prototype house- the Earth Craft house- where Southface applied a broad range of sustainable design and building practices.

Jeff Christian from spoke to the group about the concept of zero energy. Zero energy is being implemented in building Habitat for Humanity homes across the country. The goal of this effort is to reduce utility costs for Habitat owners by utilizing solar energy, energy efficient building materials, and other ways of reducing utility costs.

Joe continued the workshop by talking about the Rural Studio, an architectural training program out of Auburn University. Architectural students design and build structures along side residents in rural Alabama. This was a way of introducing the broader issue of sustainable development and showing YouthBuild Cobb County students the kind of work that student architects do while learning their profession.

The workshop finished with an overview of the charrette. The students were divided into teams. There were four groups comprised of eight students, each worked with two architects per group. Each team was asked to come up with a design for one of four possible housing models. One group was assigned to work on a single family home. The second group was asked to design a loft-style condominium arrangement. A third was given the task

of working on an attached multi-family unit. The fourth group designed a hybrid unit, combining characteristics of single family, loft, and multi-family.

The two-day charrette begins

During the first day, the student teams went to an empty lot where Cobb Housing, Incorporated was going to build. They were asked to envision what the building might look like. Each team took photographs of the site. Teams posted this information. They reviewed the concepts of passive solar heating and cooling in sustainable design.

"They were also challenged to think about different architectural styles- traditional, modern, or just plain extraordinary environmental solutions," Joe said. "As the teams began to get used to this way of thinking, they really began to respond. One student developed a detailed design based on interior and exterior elevations. Another came up with the idea of using marble on exterior porches. Almost all of the designs addressed the fundamental issues of solar orientation and rain harvesting."

Building and presenting their models on the second day

There was a burst of creativity on the second day of the charrette. "Everyone was engaged. There was an intense buzz around the room. You could tell they were creating," Lance Wise observed. "There was a lot of newsprint. There were scaled drawings where students applied the principles they learned during the workshop and the skills they learned on the construction site earlier in the year. Some of the students even commented about how they really wanted to pursue architecture and design as a career."

"The final presentations at the end of the charette were extraordinary," Lance said. "The students were interested in each others work. There was lots of listening as well as constructive, humorous criticism."

While no new buildings were constructed as a result of the charette activity, students incorporated sustainable materials and building practices into their design ideas. This was reflected in the scale models each team built.

What was the impact of this activity?

The main idea of the project was to expose students to sustainable building practices, and the field of architecture. "We think we planted lots of seeds that day," Lance reflected. "We also changed the way Cobb County Housing handled debris at construction sites. We initially had many locations for debris. We found that it was more sustainable to consolidate these into one location for debris. We have since adopted this practice."

There were other results as well. The Atlanta AIA has decided to fund an annual charette with Cobb County YouthBuild. Lance Wise is also pursuing partnerships with the Enterprise Foundation and YouthBuild USA through their green building initiatives. Cobb Housing, Incorporated is reviewing the idea of becoming an Earth Craft Certified Builder location through Southface. Also, students began thinking about architecture and design as possible careers.

Where is Cobb County going from here?

Engaging students earlier and using their ideas in housing construction

The next cycle will begin August 8th. Lance wants to have the charette earlier in the year with the next group of students. He

also wants to integrate the workshop activities into the curriculum. Then, he wants to replicate the two-day charette and build a house as close to the students' design as possible.

Curriculum Development

Tammy Miller of YouthBuild USA and Joe Martin of the AIA-Atlanta Chapter have also committed to developing an entire curriculum on sustainable building practices. They think that providing students with earlier, more consistent exposure will increase their familiarity with this trend in the construction industry, and prepare them to make a real difference in the rapidly emerging environmental market.

Other YouthBuild USA Resources on Sustainable Building Practices and Project-Based Learning

The following materials are available to order or to download by going to the YouthBuild USA website at www.youthbuild.org

Working Hands, Working Minds Curriculum Guides. Especially *Unit 5: Housing and Community*. This is available to affiliates for \$35.00

Green Education Complements the YouthBuild Experience. In **From the Field**, July, 2003. The Environmental Issue. This is available free to download.

Builders and Buyers Benefit from Energy-efficient Housing. In **From the Field**, July, 2003. The Environmental Issue. This is also free to download.

Hands on Green Construction. Find it in the YouthBuild Conference Materials. This is a free download.

Project-based Learning. In the YouthBuild Conference Materials.
This is a free download.