Teaching Young Learners About Sustainability

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These questions came from children who just finished listening to the book Beatrice’s Goat (McBrier, 2001). Their inquiries illustrate how young learners are interested in and compassionate about the different cultures, environments, and economic systems of the world—what could be called the three elements of sustainability. Sustainability is a core 21st-century movement that stresses keeping interrelationships among the environment, human cultures, and economic systems healthy now—and for future generations—across local, regional, national, and global levels. The ideal sustainable community is able to maintain this balance among the social, environmental, and economic pillars locally, without using an abundance of outside resources or disrupting the local ecosystem.

Using children’s literature that features unique stories of children and families around the globe, classroom teachers can begin discussions about sustainability in their classrooms. This article highlights several works of children’s literature that might be appropriate springboards for engaging young learners in such discussions, and then focuses on one particularly engaging children’s book in order to illustrate more specifically how educators might present a concrete introduction to these concepts.

**Teaching for Sustainability**

As the field of environmental education transitions into environmental education for sustainability (González-Gaudiano, 2006), the task at hand for educators of young children is to begin infusing sustainability concepts into existing curricula. This can be challenging for elementary educators, who may be unsure as to how and when to introduce these concepts to their students, perhaps because they themselves received little instruction on environmental topics during their own schooling (Powers, 2004). The inclusion of social and economic concerns marks a departure from most established environmental education models, which have strong connections to traditional scientific disciplines and are traditionally taught to secondary students.
Sustainability is an interdisciplinary concept that fits comfortably and appropriately within many different places in early childhood and elementary classrooms. The Cloud Institute for Sustainability’s Education for Sustainability Core Content Standards (2010) incorporate national standards in both social studies education and science education; in addition, the International Reading Association and National Council of Teachers of English (1996) assert that students should read “in order to develop an understanding of themselves as both individuals and parts of a larger social whole” (p. 21).

The rationale for introducing sustainability education during the early childhood and elementary school years is based on the premise that children must develop a sense of respect for the natural environment during their childhood years; otherwise, they may never develop a positive, proactive attitude (Tilbury, 1994; Wilson, 1994). The authors of this article utilize an operational definition that is based upon the understanding that sustainability education must encompass environmental education, responsible economic decision-making, and cultural awareness. Early childhood researchers have long held the notion that exploring complex issues, such as cultural differences, leads children to a place of empowerment (Derman-Sparks & the ABC Task Force, 1989; York, 1991). Introducing sustainability education during childhood lays the foundation for a deeper understanding of this very complex, global concern in the later years.

While young children are not capable of the multifaceted understandings expected of individuals in adolescence and adulthood, their understandings of sustainability are valuable. Taking a cue from creativity researchers noting a difference between big C creativity and little c creativity (e.g., Csikszentmihalyi, 1996), the authors would like to propose the notion of big S sustainability education for adolescents and adults, and little s sustainability education for young learners. In this conception, big S sustainability incorporates activities and understanding(s) that examine the interactions of the environment, economy, and culture on a global level. Individuals involved in learning about big S sustainability focus on the complex interactions between human and natural systems on a macro level and examine the roles that individuals, groups, and institutions play in these systems. Little s sustainability, in contrast, concentrates on the day-to-day activities accomplished by individuals that focus on maintaining a healthy relationship among these three areas in a microsystem.

Young learners investigating little s sustainability might target activities in their own community, or might look at parallel small systems in other communities. For example, students could maintain a school garden and connect the project to the sustainable benefits of eating locally grown foods. While both levels of sustainability education are important, little s involves children at a level that is most appropriate to their developing understandings of the world. Children’s literature
that focuses on sustainability presents a perfect way to help foster little's understandings.

**Using Literature to Teach About Sustainability**

Social studies educator Rahima C. Wade (2007) labels “caring for the earth” as one of the three “component[s] of social justice education” for elementary learners (p. 56). Scholars have established children's literature as a powerful means of exploring such issues of equity and justice with young learners (Yokota & Kolar, 2008) and have determined that literature should be a key component of a transformative curriculum (Fox, 2006). Books can help students “disrupt the status quo” (O’Neil, 2010, p. 41).

While children's literature with ecological and/or environmental themes has been readily available for decades (Rule & Atkinson, 1994), popularization of the concept of sustainability is relatively recent. Thus, it can be difficult to find age-appropriate curriculum and children's literature that stress the six “E's” of sustainability—ecology/environment, economy/employment, and equity/equality (Edwards, 2005). The following children's books, published within the past decade, target environmental issues with a contemporary sustainability lens:

• **One Hen: How One Small Loan Made a Big Difference**, by Katie Smith Milway (2008), is based on a true story. It tells the story of a young Ghanan boy who raises poultry, and it focuses heavily on the economic aspects of sustainability.

• **Planting the Trees of Kenya: The Story of Wangari Maathai**, by Claire A. Nivola (2008) chronicles the efforts of Nobel Peace Prize-winner Wangari Maathai as she helps restore the Kenyan landscape to an environmentally healthy state.

• **Fernando’s Gift/El Regalo de Fernando**, by Douglas Keister (2001), is a realistic photography selection about a boy whose family seeks to live a balanced, sustainable lifestyle in the Costa Rican rainforest. The book contains text in both English and Spanish.

• **Isabel’s House of Butterflies**, by Tony Johnston (2005), is about a young girl in Mexico whose family may have to cut down her favorite, butterfly-filled tree in order to survive. The book poses a difficult question: What happens if you cannot figure out a way to balance out concerns for the environment, economy, and culture?

When sharing such books with young learners, teachers must take care to pose questions that scaffold children's understandings of the three pillars of sustainability—culture, environment, and economy. Although the questions will certainly differ, depending on the plot of a particular book, the following are general examples that a teacher might consider in order to start a discussion:

- **Ecology/Environment**: Can you describe the land in the story we read? Did you notice any changes that people made to the land? Did those changes help or harm the land?
- **Economy/Employment**: Was there any part of the book that discussed how people used money, material goods, or trade? If you lived in the area highlighted in the book, how could you spend your money to help your family and friends?
- **Equity/Equality**: What changes did you notice in the book? What stayed the same? Did any of the changes affect the lives and traditions of the people in the story?

The following section presents an exemplary children's book, *Beatrice's Goat* (McBrier, 2001), that successfully addresses key components of sustainability. It tells the story of Beatrice, a young Ugandan girl, who finds a sustainable way to earn enough money so that she can attend school. The authors of this article used this book as part of a project designed to support preservice teachers learning about teaching for sustainability. A group of nearly 100 early childhood and elementary preservice teachers in South Carolina used *Beatrice’s Goat* as a springboard for learning.
about sustainability education. They met Beatrice Biira, the story’s real-life protagonist, who is now a young woman attending college in the United States. They heard Beatrice speak about her life, asked her questions about sustainability and her life in poverty, and listened to her views on the importance of global education. The preservice teachers shared the book with their mentor teachers and then read the story to nearly 2,000 pre-K to 6 students as a means of introducing young learners to the concept of living a sustainable lifestyle.

**Beatrice’s Story and Children’s Reactions to a Sustainability Text**

*Beatrice’s Goat* (2001) is a best-selling children’s book written by Page McBrier and illustrated by Lori Lohstoeter. The book, based on a true story and set in Uganda, features Beatrice, a young girl who longs to go to school. However, her family cannot afford to pay for schoolbooks and a uniform. One day, Beatrice’s family receives the gift of a goat. (Heifer International, a nonprofit organization that helps families in poverty become self-sustaining through education, community development, and eco-friendly agriculture, gifted the goat to Beatrice’s family.) Beatrice’s mother says to her daughter, “It will be your job to take care of our goat. If you do, it can bring wonderful things” (p. 9). With the money made from selling the goat’s milk to villagers, the family is able to stabilize themselves economically and send young Beatrice to school. Through the gift of a goat, the family gained nutrition and income, while retaining their local cultural practices and keeping the environment healthy—emblematic of sustainable living practices.

While the preservice teachers involved with this study successfully used the book in all pre-K to 6 grade levels, they found that children in 2nd and 3rd grade were particularly interested in the story, especially once they learned it was based on a true story. “My children were fascinated with this story and they loved hearing about Beatrice’s lifestyle and culture,” one preservice teacher explained. “If they were provided with more information on these issues, then I think that they would maintain this interest level.”

The preservice teachers collected students’ questions to bring back for discussion with their peers in social studies and science methods courses. An analysis of the questions revealed that the children typically asked questions about five different aspects related to the book: culture, goats, schooling, money/poverty, and Beatrice’s real-life story. Many of the questions that the children asked about culture centered upon the differences between Beatrice’s life in Africa and life in the United States. For example, children asked, “Why are their houses made of mud?” and “If she is a girl, why does she have short hair?” Young children, in particular, focused on the goat—almost to the exclusion of other aspects of the story. “They loved the goat Mugisa best of all,” one preservice teacher commented about her kindergartners. “I didn’t expect them to put so much emphasis on the goat,” explained another teacher; “not so much how the goat helped the family, but just on the goat itself.” Other students were surprised to find out that some children cannot afford to attend school. “Why can’t she go to school if she wants to?” asked one 4th-grader.

The preservice teachers also reported that their students deeply considered the economic aspects of the book. Many were curious about the concept of poverty. Others questioned the ways that other gifts might affect people in poverty: for example, “Would any other animal have helped Beatrice and her family?” and “Could a different animal, like a horse or a cow, help in her village?” Another student made a personal connection between Beatrice’s story and a situation in his family—that is, his mother wanted to go to college but could not afford it.

The fact that the storyline of *Beatrice’s Goat* is inspired by real-life experiences helped to spark the children’s engagement. “They wanted to know what she was like now and what happened after the story ended,” one preservice teacher explained. Another commented, “They asked me how old she was, if she still had the goat, what it was like to meet her, and how I got to meet her.” A 3rd-grade preservice teacher who showed her students clips from a 60 Minutes special on Beatrice Biira (Leung, 2005) noted that the children tried particularly hard to relate young Beatrice in the story to her life as an American college student today.

These questions illustrate how young learners are curious about the elements of sustainability—culture, economics, and the environment. Yet few students made connections among the three pillars of sustainability. Our experiences introducing *Beatrice’s Goat* to young students, and when considering the questions that the learners asked during the story, demonstrated that the students did not immediately make connections between the story and environmental stewardship. “I don’t think they related this to an environmental issue,” explained one preservice teacher. The students’ inability to make such connections indicates a need for teachers to scaffold students, to help them...
frame their discussions around sustainability and make connections among the three pillars. With *Beatrice's Goat*, for example, teachers might pose such questions as:

- How did Beatrice and her family change the land to get ready for Mugisa's (the goat) arrival?
- Did the money that Beatrice and her family received by selling goat's milk change the ways that they live?
- Do you think that Beatrice's children will be able to go to school? What about her grandchildren? Do you think that they will still raise goats?

The concept of sustainability is rooted firmly in human social systems, touching upon such concepts as equity, ecology, and economics, and thus is an important aspect of early childhood and elementary curricula. The need for sustainability education will continue to grow as environmental concerns play an increasingly important role in the everyday lives of individuals. The role of sustainability education in elementary and early childhood education is dependent on teachers’ willingness to engage their students in this complex discussion. These children's literature selections can help teachers to prepare young children to understand the inter-relatedness of the world and their role in creating a healthy planet for all of Earth's inhabitants.

**Notes:**

1 Curricular resources for this title are available online at www.onehen.org (accessed August 1, 2010). A pertinent feature story from NPR's *All Things Considered* program is available online at www.npr.org/templates/story/story.php?storyId=87930121 (accessed August 1, 2010).


**References**


