



2010-2011 Annual Report



Summary

The Fairchild Explorer Program, a series of grade-specific field studies at Fairchild Tropical Botanic Garden (FTBG), immerses elementary age students in various hands-on activities designed to unearth their inner scientist and help them understand the natural world. These activities include: embarking on a “root to tip” plant hunt, examining rainforest tools and toys, learning about photosynthesis and propagation, and exploring ecosystems through narrated tram and walking tours. During the 2010-2011 school year, more than 5,000 students, teachers and chaperones participated in the Fairchild Explorer Program.

Program Goals and History

The Fairchild Explorer Program was designed to enhance science education for elementary school students in Miami-Dade County, increase student understanding and appreciation of ecology, plants and nature, and encourage them to become good stewards of their environment. Garden-based field studies at Fairchild integrate the needs of teachers and students, Next Generation Sunshine State Standards, and the Garden’s educational goals.

The program was launched in 1980, and has grown and evolved considerably over the last 30 years as a collaborative effort between Fairchild staff, volunteers and Miami-Dade County Public Schools’ (M-DCPS) teachers, students and curriculum specialists. Initially designed for fifth grade students, the program now offers multidisciplinary environmental programs for students in kindergarten through grade five.

Outline and Highlights

The Explorer program entices K-5 students to discover the wonderful world of tropical plants and ecosystems in the most beautiful outdoor classroom in Miami-Dade County. The field studies are hands-on, inquiry based, experiential programs for students in public, private and charter schools. Field studies curricula are correlated to Florida’s Next Generation Sunshine State Standards (NGSSS) for elementary school science, math, language arts, social studies and physical education. Program alignment with these standards helps prepare students for the Florida Comprehensive Assessment Test (FCAT).

The distinguishing features of the Explorer program are:

- Programs deepen students’ real-world understanding of science, language arts and math concepts tested on the FCAT.
- Teachers receive pre- and post-visit materials (correlating to NGSSS) to prepare students for the field study and extend the learning experience beyond their visit.
- 3-hour programs include unearthing the students’ inner scientist by: getting their hands dirty while propagating plants; exploring the ecosystems in the Garden through



walking and narrated tram tours; and learning to use hand lenses to get up close with the flora and fauna at FTBG.

- Small group sizes of 8-12 are led by Fairchild educators and trained volunteer guides who assist students in their discoveries.

Curriculum

The Explorer program includes four distinct curricula, targeted to specific grade levels:

- *Living with Plants* (Grades K–2): explores the importance of plants to sustain life and the identification of the parts and functions of plants.
- *Life in a Rainforest* (Grade 3): investigates plant adaptations and rainforest structure, and compares the lifestyle of the Chachi people of Ecuador with the students' lifestyle.
- *Where We Live* (Grade 4): examines the characteristics of ecosystems and how the different components of each are interdependent by exploring pine rocklands and mangrove habitats.
- *Tropical Explorations* (Grade 5): compares how different tropical plants reproduce by examining variations in seeds, spores, flowers and cones.

Attendance

Students who participate in the Fairchild Explorer Program reflect the ethnic and socio-economic diversity that make up Miami-Dade County's population. The program has a maximum capacity of 60 students per day, and is offered Monday through Friday from October through May.

During the 2010-2011 school year:

- 5,065 students, 311 teachers and 436 chaperones participated in the program.
- Groups from 67 different schools visited for a total of 126 visits.
- 54% of visits were from schools that receive Title 1 funding.
- 33% of visits were from independent schools.

Volunteer Guide Training

Volunteer guides are an integral component of the Explorer program, and a large portion of the activities are conducted by volunteers. Fairchild staff set very high standards of performance and satisfaction for the guides, which requires ongoing training and supervision.

During the 2010-2011 school year:

- 39 volunteer guides gave 2,953 hours to the Explorer program.
- New volunteer guides were required to take approximately 25 hours in training before conducting tours. Specific programmatic



training included tour content, interpretive guiding techniques and Garden procedures. At the end of the school year, guides completed a survey that served as a self-review, an assessment of the program and an indicator of topics for Fairchild staff to address the following year.

In addition to programmatic training, a comprehensive professional development series was developed and facilitated for all volunteer guides. Topics for presentations, workshops, and field trip locations were determined based on feedback received from volunteers in their program evaluations from the previous year. On January 11, Lee Morgenstern, from CCDH (formerly Community Committee for Developmental Handicaps), conducted a workshop on *Discovering Inclusion*, which focused on how to approach teaching students with special needs. Volunteers and staff visited the Green Organic Railway Workshop (G.R.O.W.) on March 9 to learn about urban farming. On April 7, Theresa Chormanski from Miami-Dade College Kendall Campus gave a talk on *Florida's Native Plant Communities*. Additional courses on the history and landscape of Fairchild Tropical Botanic Garden were offered through the volunteer department.

Program Evaluation

Throughout the year, Fairchild staff evaluate various components of the program. Instruments used include:

- Program-specific teacher questionnaires
- On-going observation, informal questioning and feedback of teachers and volunteers
- Feedback letters from students
- Volunteer guide annual survey
- Annual program assessment meeting with guides conducted in May

Teacher questionnaires:

Every teacher visiting Fairchild with his/her students receives a questionnaire regarding materials sent for use in the classroom and their experience at the Garden. The questionnaire response rate continues to improve. The feedback allows Fairchild staff to make programmatic changes with greater degrees of confidence. Analysis of these responses can also be used as a measure of overall teacher satisfaction.

A total of 60 completed questionnaires were used to create the following results:

- **96% replied "definitely" when asked if they would recommend the program to a colleague.**
- Overall, teachers noted the planting and tram ride activities to be their favorites, followed by guided walks and soil observations.
- When asked why they prefer a specific activity, teachers' responses can be summarized by the following quote; "The students felt like scientists. Small groups allowed individual attention. Everyone was so amazing with the students. They appreciated the personal attention".

- The classroom teacher is the most important decision maker on booking field study programs.
- Analysis of questions regarding use and satisfaction with pre- and post-visit materials for teachers indicated that certain lesson plans could be removed or replaced.

Volunteer guide annual survey and assessment meetings

At the end of every school year, Explorer volunteer guides are asked to complete a survey and reflect upon their experience at Fairchild and their performance as a guide. This year's surveys included peer evaluation between volunteers, reflection on interaction with Fairchild staff, and interest in future professional development. The objectives of the volunteer guide survey include: assessment of each individual guide's experiences, giving the volunteer a chance to reflect on their own performance, giving Fairchild staff a basis for flagging any areas needing attention, evaluating Fairchild staff management of the volunteers (as seen by the volunteers), directing future training efforts and validating the guides' experience and contribution to the Explorer program.

At the end of the school year, formal meetings were held with teams of volunteer guides for each specific program. Since volunteers have the most contact teaching time with the students, their insight and input is essential in maintaining a quality experience for both the students and volunteers. Their recommendations and requests included modifications on timing and flow of activities, additional or modified equipment and materials, and logistical and horticultural suggestions.

A total of 16 completed surveys were used to create the following results:

- Responses to questions pertaining to individual volunteer and group performance indicate a high level of confidence and satisfaction in their ability to conduct effective programming with diverse groups of students.
- 87% of respondents expressed an enjoyment of all the different student groups.
- 87% stated that they always or sometimes modified their presentation depending on the behavior of the students.
- 87% admitted that they sometimes have difficulty controlling a group. This probably reflects a degree of honesty and self-awareness that we are looking for. We are continuously working on ways to improve our guides' capacity to deal with challenging groups.
- Satisfaction with Fairchild staff interaction was very high on all measures, including training, understanding of program goals and individual responsibilities, and professional supervision.
- Several guides expressed interest in further training in the following areas: ecology with an emphasis on activism, additional CCDH trainings with program specifics, user-friendly talks by FTBG curators of plant collections, native plant sessions and courses with a focus on the Everglades.

Summary and Vision

In 30 years, the Explorer program continues to be very popular. Input from Fairchild staff, volunteers, teachers and students indicates tremendous appreciation of the program. Formative evaluations continue to be a priority as we value the input of all stakeholders in keeping the Explorer program meaningful, relevant, effective and well attended.

Feedback from Students

"I had a great time at Fairchild Tropical Botanic Garden. It's cool to know that pine rocklands' bark could withstand fire."

"I've learned that black mangroves are a big part of the ecosystem because the salt that is in the lake the black mangrove leaf collects all the salt. Red mangroves help to protect baby animals from dangerous animals so they won't be eaten."

"Thank you for putting in all your precious time to teach us. And I wish that the next person will appreciate you just as much as I do."

"My Fairchild Tropical Garden trip was fabulous and amazing-beyond believe. There were beautiful red, white, green and yellow everywhere."

"My favorite part was when I rode in the huge tram."

"When I smelled all of the flowers, saw all of the stunning trees, and slurped a leaf that tastes like salt, I was so excited to be in Fairchild Tropical Botanic Garden."

Feedback from Teachers

"There is a balance of hands-on and direct learning."

"Overall the field trip was a wonderful learning experience. My students had a great time"
"The kids really enjoyed it because they were actively engaged."

"It was hands on; relevant to instructional curriculum; and a great activity."

"It was a day full of fun-filled learning. What more can a teacher ask for?"

"I loved how engaged the students were during the visit."

"[I enjoyed] the concept that in taking home a plant and agreeing to care for it is a start in caring for the Earth."

"It is so exciting for our students to actually be in the rainforest. It is an excellent program."

"Loved the hands-on off the path experience....kids don't spend enough time down in the dirt seeing nature."