

MAINTAINING AND PROTECTING THE ESTUARINE ENVIRONMENT, AN EDUCATIONAL LANDSCAPE MANAGEMENT PROGRAM FOR PARKS AND RECREATION PERSONNEL

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Additional index words. turf management, tree pruning, irrigation, pesticides, fertilizers

Abstract. **St. Lucie County encompasses 588 square miles, contains three municipalities, and impacts over one hundred miles of estuarine environment, including the Indian River Lagoon and the Saint Lucie Estuary. Within these boundaries, there are three municipal golf courses, 57 recreational parks, 63 baseball fields, and 3 football stadiums all of which are managed by over 200 full time city and county Parks and Recreation landscape maintenance workers (St. Lucie County,**

City of Fort Pierce, City of Port St. Lucie). Throughout the year these employees have significant impact on the county estuarine environments through their daily landscape practices. These practices include pesticide and fertilizer applications, as well as irrigation management, turfgrass mowing and tree and shrub pruning. As a result, a six part educational training program was developed to assist parks and recreation workers to upgrade their landscape skills and knowledge. The classes for this program were conducted in 4-hour segments, twice a week for three weeks. Topics that were covered included: botany, entomology, ornamental and turfgrass management, pruning, irrigation management, and integrated pest management. The completion of the six-segment class was rewarded for some participants with a 3-5 percent pay increase.

Training for St. Lucie county Parks and Recreation personnel has been an ongoing program, originating with identification of a need for educational instruction in the area of municipal landscape management by a supervisor from the division. With assistance from St. Lucie County / University of

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Florida IFAS extension staff, programming was developed. At its inception, the program was primarily classroom based and offered to a small segment of municipal employees. As the program matured, a shift towards hands-on education evolved and as a result, the popularity of the class has increased to a point where surrounding city Parks and Recreation divisions now attend the annual program.

Methods and Materials

Contacting the Supervisors. The St. Lucie County Extension initially contacted city and county supervisors by phone, outlining the specifics of the program, and then followed up by e-mailing an agenda and class description to each one. The agenda included dates, times, location, target audience and a contact number. The class description outlined why the class was being offered, learning goals, desired outcomes, materials to be used, and various teaching strategies to be incorporated in the learning process. Upon receiving the e-mailed information, the supervisor passed it along to the staff. Those who were interested signed up and the class register was then e-mailed back to the Extension Office.

Class Logistics. The classes were conducted over a three-week period during the months of January and February and were presented from 8:00 AM till noon twice a week. Topics included segments on insect and plant identification, pruning, irrigation, turfgrasses, environmental landscape management, and pesticide training. Guest presenters with expertise in predetermined topics were invited to speak, and hailed from both academia and industry. Each speaker was provided with a set of learning outcomes in advance. These outcomes provided the speakers with a road map of what topics were to be covered in class. Upon receiving the learning outcomes, the presenters were asked to prepare a 2 h presentation emphasizing key points in the classroom and then reinforcing those concepts with hands-on field activities.

Class Procedure. On the opening day of class, the participants were signed in and handed a notebook with fact sheets pertaining to each day's topic. The notebook was used as a guide for the students and also as a reference source for their final exam.

Each class began with a pre "check your knowledge" quiz. Each day's quiz consisted of five power point slides. As each slide was projected, a question relating to the slide was asked. The student was then asked to answer the question on an answer sheet. Throughout that day's activities material pertaining to the questions was covered. At the conclusion of each day's presentation, the same pictures were projected again and the same questions asked and answered.

Upon conclusion of each day's pre quiz, the guest speaker was introduced. Each speaker throughout the series began the presentation with learning outcomes. This teaching approach provided the student with a detailed guideline on what the class was expected to take away from that day's class. The speaker then divided the time between lecture and hands-on field activity, nicely tying together the days' learning objectives.

On the final day of class a fifty question, open book exam was given. Students were allowed to work in pairs and reference their answers from the material provided for them throughout class. Upon conclusion of the exam, certificates of completion based on attendance and exam score were handed out, a drawing was held and graduation pictures were taken.

Results and Discussion

Class Timing and Materials. When questioned on most advantageous time of year for the training classes to be offered, city and county supervisors unanimously agreed on the winter months. Because of the slowing of seasonal growth, their employees have the opportunity to attend the classes.

Providing notebooks for students as guidelines for speaker presentations complimented the learning process, and when surveyed, 90% strongly agreed the books were a good benefit. It was also noted in the additional comments section that the notebooks doubled as a practical field resource guide.

Speaker Presentations. When surveyed about presentation effectiveness, 91% agreed that the information presented to them was relevant to their work, while 95% agreed that the classes met their expectations and increased their knowledge. When surveyed on training techniques, 66% agreed that classroom training was an appropriate venue for learning while 91% agreed that field exercises were a more realistic environment in which to comprehend the material. These statistics indicate that as adult learners, they prefer to incorporate concepts while engaged in outdoor activities rather than in a formal classroom setting.

Pre and Post Quiz Results. The pre and post quizzes served not only as an incentive for the class to pay attention, but also provided an opportunity to track knowledge gained. Out of thirty pre quiz questions, the 35 students totaled 401 incorrect answers. After the speakers gave their presentations and the post quizzes were taken, students totaled 183 incorrect answers, for a decrease of 54% in incorrect answers. This indicates that by reinforcing concepts throughout the class students have a greater likelihood of assimilating information.

Finals and Certificates of Completion. The open book, partnering exam technique provided the students a better understanding of the book's material and relieved them from the stress of a closed book exam. Of the twenty six students that completed the final, 13 (50% of the class) scored 90 or better, while the remaining students scored in the 70's and 80's. The certificate of completion provided closure for the students; a just reward for their hard work. They also provided both incentive and buy in for the class to complete the six sessions. Several county agencies recognize the value of the program and will reward the completion of the six-segment class with a 3-5 percent pay increase.

Literature Cited:

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