Ripple Effect Training: Multiplying Extension's Resources with Veteran Master Gardeners as MG Trainers

Ann Marie VanDerZanden, Oregon State University
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Abstract
Ripple Effect Training, a new train-the-trainer program, was implemented by the Oregon State University Master Gardener program in 1999. The goals were to increase veteran volunteer commitment and participation in the Master Gardener training program and to reduce program expenses. During a 2-day workshop, participants received instruction on the training modules and teaching strategies for adult learners. They completed a self-efficacy evaluation after the workshop and again after delivering the training. Evaluation showed they had a high level of confidence prior to delivering the training, and this confidence was elevated after completing the task. Additionally, the new Master Gardener trainees felt the quality of instruction from the Ripple Effect Trainers was similar to that of Extension agents and state specialists.

Ann Marie VanDerZanden
State Coordinator Master Gardener Program
Oregon State University
Corvallis, Oregon
Internet Address: vanderza@bcc.orst.edu

Introduction
Nationally, the Master Gardener program is one of the most popular volunteer programs offered through the Cooperative Extension Service. However, training these volunteers requires a substantial investment of time and money by Extension (Meyer & Hanchek, 1997; Ruppert, Bradshaw, & Stewart, 1997).

The program has grown substantially in Oregon over the past 23 years, and in 1999 over 940 new Master Gardeners received 48-66 hours of initial training at 17 different sites throughout Oregon. Just as the Oregon Master Gardener program is gaining popularity, a reduction in faculty available to train Master Gardeners and reduced travel budgets for existing faculty have made it difficult to effectively deliver training on a statewide basis.

In many states, Master Gardener programs are looking at ways to improve program efficiency (Dorn, Relf, McDaniel, & James-Deramo, 1999; Schrock, 1997; Stack, 1997). One method is to adopt a train-the-trainer model, which can be an effective way to multiply the training capacity of an organization (Woods & Cortada, 1998). The Ripple Effect training was designed to train veteran Master Gardeners with an interest or experience in teaching to assume some of the training duties in their respective counties. If provided with well-designed curriculum materials and instruction on how to use them, veteran Master Gardeners could deliver training on a county level that was of the same high quality as training provided by Extension agents and other professionals.
This train-the-trainer model in the Extension Master Gardener program can offer numerous benefits, including:

- Reduced training expense and teaching time for Extension faculty;
- Increased volunteer commitment and participation in Master Gardener training;
- An advanced training opportunity for veteran Master Gardeners;
- Availability of curriculum materials for future training; and
- Improved retention of veteran Master Gardeners.

**Materials and Methods**

In September 1998, 41 veteran Master Gardeners, representing all but one county in Oregon with a Master Gardener program, attended a 2-day Ripple Effect train-the-trainer seminar. The agent or program assistant in charge of the local training selected Ripple Effect Trainers (RE Trainers) based on their suitability to trainers (i.e., previous teaching experience, interest in teaching adults, and horticulture background). During the seminar, RE Trainers learned to deliver two 3-hour training modules. They learned how to use the curriculum materials on vegetable gardening and herbaceous ornamentals, including annotated slide sets, handouts, hands-on activities, entry/exit quizzes, and teaching evaluations. RE Trainers also received training on effective teaching strategies for the adult learner. They delivered the training modules in their respective counties during the 1999 winter training period.

RE Trainers completed a self-efficacy evaluation in September 1998, after completing the 2-day Ripple Effect training seminar and again in February 1999, after they had delivered the modules in their respective counties. The self-efficacy evaluation was in a Likert scale format and measured the confidence in their abilities to:

- Deliver the training in their county,
- Manage the classroom,
- Field questions during the training,
- Be effective and perform in the classroom, and
- Deliver specific information related to the topics of vegetable gardening and herbaceous ornamentals.

Throughout the winter 1999 training, new Master Gardener trainees (MG trainees) evaluated the RE Trainer who delivered the vegetable gardening and/or herbaceous ornamentals modules in their county. They used the same evaluation tool as is used for other Master Gardener instructors, such as Extension Agents, Specialists, horticulture professionals, and veteran Master Gardeners.

Statistical analysis consisted of analysis of variance and mean separation was completed using Tukey's studentized range test with (P ≤ 0.05) using SAS (SAS Institute, 1987).

**Results**

Forty RE Trainers completed the first self-efficacy evaluation, and 18 completed the follow-up evaluation for a 45% response rate.

Table 1 illustrates the data associated with the self-efficacy evaluation. In general, the RE Trainers had a high level of confidence prior to delivering the training modules in each of the categories evaluated; confidence levels did not change after they delivered it. The only significant difference in their confidence was in their ability to field questions from the MG trainees. Although their confidence level was high prior to delivering the training, after completing the process, they felt even more confident that they could address the questions posed by MG trainees.

| Table 1 | Selected Questions from Self-Efficacy Evaluation* Before and After Training Delivery in Individual Counties, Winter 1999 |
|-----------------|-----------------|-----------------|
| Self-Efficacy Evaluation Questions | Before | After |
| Ability to deliver training in your county | 4.6a | 4.7a |
| Ability to manage the classroom | 4.5a | 4.6a |
| Ability to field questions from students | 4.4a | 4.7b |
Another important component in evaluating the effectiveness of this program is examining how the MG trainees perceived the training they received from the RE Trainers. To assess this, the overall class evaluation scores for the RE Trainers (n=18) were compared to the overall class evaluation scores for Extension agents and state specialists, professionals in the horticulture industry, and veteran Master Gardeners with previous training experience (n=53, 6, and 6, respectively) from the 1999 winter training (Table 2). There was no significant difference (P ≤ 0.05) in the overall class evaluation scores between the four groups.

**Table 2**

<table>
<thead>
<tr>
<th>Instructor Classification</th>
<th>Score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE Trainer</td>
<td>4.4a</td>
</tr>
<tr>
<td>Oregon State University Extension Agent or State Specialist</td>
<td>4.6a</td>
</tr>
<tr>
<td>Horticulture Professional</td>
<td>4.4a</td>
</tr>
<tr>
<td>Veteran Master Gardener</td>
<td>4.3a</td>
</tr>
</tbody>
</table>

Mean separation within columns by Tukey's studentized range test, (P≤0.05).
*Based on an average of question 11 'Overall rating of the class' from the OSU Extension course evaluation form. Scale: 1=poor; 5=excellent.*

**Discussion**

Using veteran Master Gardeners to train new Master Gardener volunteers is a viable method of delivering some courses in the Oregon State University Master Gardener annual winter training. The new MG trainees rated the overall quality of instruction they received from the RE Trainers to be of the same high quality as that received from the three other categories of instructors, including Extension agents and state specialists.

Additionally, the RE Trainers felt the initial training and orientation they had in using the annotated slide sets and other curriculum material prepared them to deliver the training in their respective counties. After delivering the training in their counties, they had an increased confidence level in their ability to field questions from the MG trainees.

Capitalizing on the skills and talents of veteran Master Gardeners is a useful way to enhance the overall quality of the Master Gardener Program. It offers veteran Master Gardeners an opportunity to have more ownership in the program and provides another avenue for their continued involvement. It also relieves some of the financial concerns that are a result of decreased faculty and budget resources available to deliver the training each year.

The keys to making this type of project successful in the Master Gardener program are:

- Teaching skill and enthusiasm of the veteran Master Gardener (RE Trainers);
- Quality teaching materials and orientation on how to use them;
- Preparation by the RE Trainer before delivering the training; and
- Support of the project from the Extension agents.

Based on the success and support of this project, similar projects will be developed and implemented by the Oregon State University Extension Master Gardener Program in the future.

**References**


