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RUTGERS COOPERATIVE EXTENSION

NEW JERSEY AGRICULTURAL EXPERIMENT STATION

Measuring Impact of Educational Programs

A Guide for Rutgers Cooperative Extension Faculty & Staff

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What is impact?

Impact is the difference we make in people's lives as a result of programs we conduct. These programs may be research or teaching and may or may not involve the public directly while they are being delivered. Yet the results must ultimately change people's attitudes or behavior, or benefit society in other ways.

Why is impact important?

- To justify the investment of time and effort, as well as the dedication of public and private funds.
- To earn and build professional, organizational, and political credibility and support.
- To yield tangible results that serve as the base for scholarly publications, as well as awards and recognition.
- To satisfy the requirements of political bodies and funding agencies.

To begin, start with the "end"!

The program development model used by Cooperative Extension incorporates needs assessment, development of program objectives based on the organization's mission to meet those needs, program planning and delivery, and evaluation. Measuring impact is part of the evaluation component. Despite what is commonly believed and typically practiced, however, evaluation needs to be considered while a program is being *developed*, as well as during its delivery and after its completion.

Here are some points to consider when developing programs so that measuring impact becomes an integral part of program development:

1. Develop goals for programs based on *need*.

Who are the audiences to be served? What are the outcomes to be sought? Are these outcomes attainable and measurable? Do potential programs fit local or clientele interests, state strategic plans, national initiatives, or federal performance goals?

2. Assess resources available to conduct programs.

Funding surely influences objectives and affects program viability and success. Are you relying on public funds, grant monies, or user fees? How stable is the funding? Consider what funding agencies will require when you report results. Be sure to build evaluation needs and costs into your budget.

3. Determine priorities.

Consider time and staff available. If choices must be made, which programs are likely to have greater impact on more people? Which ones are likeliest to grow? Which might be turned over to volunteers or advisory groups to maintain? Which might provide the greatest positive media attention and other forms of recognition for you and the organization? Which are likely to generate the most scholarly publications? Which have the support of clientele and advisory groups? Involve stakeholders—people who have an interest in program results—in planning and decision making whenever possible.

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4. Determine specific, measurable objectives for the programs selected.

Confirm that your objectives are measurable and attainable. If you are unable to list your objectives in writing, you are probably not ready to plan or deliver the program. General objectives state what will happen. However, educational objectives are preferable - they state what the program participant or target audience will do, learn, or gain as a result of the program. Objectives will reflect the many different levels of program outcomes that might be sought. Below is Bennett's Hierarchy,* which depicts the range of outcomes that might be desired in program delivery:

- End Results
- Practice Change
- KASA (Knowledge, Attitudes, Skills, Aspirations) Change
- Reactions
- People Involvement
- Activities
- Inputs

Note that true *impact* increases as you go up the hierarchy. But the cost of seeking these higher outcomes is that they are often more difficult to measure or require a longer time to do so. An additional challenge of proving end results is making a feasible connection between a program offered and the results realized. Program planners must be able to answer the question: "How do you know this program was responsible for these impacts?"

Below are examples of objectives for each of the levels of the hierarchy, starting from the bottom. Before you start conducting a program, analyze your listed objectives to make sure they are attainable and measurable, and at what level they are likely to yield *impact*. If your objectives don't go beyond the Reactions level, then your results are unlikely to either.

***Inputs**—time, funds, staff invested*
- A budget of $2,000 will be allocated.
- One hundred staff hours will be dedicated.
- A two-year study surveying 384 citizens will be conducted.

Activities—events, activities, programs, sessions offered
- A six-week beef production course will be offered.
- 4-H Summer Camp is scheduled for July 5–10.
- A home-study course on financial management will be presented.
- A subscription-based newsletter will be offered to interested commercial fishermen.

***People Involvement**—number of participants involved*
- Two hundred welfare recipients will be enrolled.
- Two-thirds of Chamber of Commerce members will attend.
- All elected officials from county government will participate.
- Enrollment at 4-H Summer Camp will be doubled within two years.
- Twenty volunteers will be trained to assist with program delivery.

***Reactions**—what participants thought of the program, its organization, its leader, etc.*
- Seventy-five percent of workshop attendees will rate the program as Very Good or Excellent.
- The instructor will attain an average Teacher Instructor rating of at least 8 on a scale of 1–10.
- Ninety percent of conference attendees will agree that they would recommend it to others.
- Seventy-five percent of participants will be satisfied with meeting facilities, food service, and lodging.

KASA (Knowledge, Attitudes, Skills, Aspirations) Change
- Two-thirds of farmers attending will learn how to apply herbicides properly.
- Ninety percent of citizens participating in the voter education course will report being likelier to vote in the next election.
- Seventy percent of fourth grade students will be more interested in science careers.
- Sixty percent of home gardeners will understand the value of composting lawn clippings.
- All low-achieving students enrolled in the program will demonstrate at least two indicators of improved self-esteem by the end of the school year.

***Practice Change**—improved methods of action adopted*

*From "Up the Hierarchy," by Claude Bennett, Specialist, Educational Methodology and Evaluation, Staff Development, Extension Service-USDA, from Journal of Extension: March/April, 1975, pp. 7-12.

- Ten grain producers will employ conservation tillage methods.
- Fifty percent of program participants will follow guidelines of the USDA food pyramid in meal preparation.
- Seventy-five percent of teenage smokers attending the workshop will quit smoking within six months.
- Ninety percent of commercial fisherman attending will use special nets to avoid trapping sea turtles and marine mammals.

End Results—*broader outcomes, effects, and benefits resulting from changes in practices*

- Non-point-source pollution will be reduced by 50 percent.
- Fatal farm accidents will be reduced by one-third.
- Twenty fewer families will be on public assistance.
- Twenty-five percent of business owners participating will increase operating profits by at least 10 percent within one year.
- Within two years, 75 percent of homeowners participating will reduce consumer credit interest payments by 10 percent.
- Average science and math scores will improve by 15 percent by the end of the school year.
- As a result of the neighborhood watch program, thefts and burglaries in this neighborhood will decrease by 30 percent within one year.
- Teen pregnancy rates will be reduced by 10 percent within five years.

Of course, results are reported in direct relation to the original objectives. Therefore, writing objectives in advance is not just a bureaucratic exercise, but part of a program *plan* that makes determining the resulting program impacts much easier.

5. Conduct the program according to plans, based on the objectives set.

Most Extension faculty and staff are already experts in *conducting* outstanding programs. The important point to remember is not to stop program development when the program ends. Take the final steps to evaluate, measure, report, and market the impacts of such outstanding programs.

6. Measure program impacts, using suitable evaluation methods and tools.

These will vary depending on the type of program and its objectives, the audiences affected, the time frame, and to whom the results will be communicated. You must also determine where to obtain the information needed. It may not always be possible to ask program participants directly. For instance, parents or teachers might be better sources of information about their children than the children themselves. Farmers might not want to divulge details about their farming practices, but such data might already be available from other sources, such as the Department of Agriculture. The number of citizens below the poverty level would be better obtained from Census data than from surveying local residents.

In summary, there are essentially three ways to evaluate impact on your clientele: ask them, test them, or observe them. Here are some specific examples of methods and tools that can be used to measure impact:

- Survey research (asking)
  - Written questionnaires
  - Program follow-up surveys and longitudinal studies
  - Interviews, testimonials, & case studies

- Observations (observing)
  - Direct observation of program participants (by program leader or by objective observers/recorders)
  - Reviewing information from other sources, such as U.S. Census data or government reports

- Simple experimental designs (testing)
  - Pre-test, post-test
  - Post-test with control group comparison

7. Report findings to interested stakeholders.

Stakeholders are the people who have an interest in your program and its impacts. They may be program participants and clientele, the media, elected officials, or funding agencies. Vary what and how you report your impacts based on your audience. Consider what they want or need to know. You will often have to write different versions for different audiences. A scientific journal might want all the details of a research methodology employed, but many audiences want only a summary of the *results* or *impacts*. For these audiences, keep it simple. Also consider reading level, and avoid technical jargon and acronyms.

Evaluation and reporting can be done using quantitative, qualitative, or a combination of methods:

Quantitative: uses "hard" data that can be clearly counted and measured. Examples are numbers and percentages. A quantitative approach is similar to a news story: it tends to include only the facts of what happened and often summarizes data from a large group.

Qualitative: focuses more on the human experience, often using anecdotes and testimonials. A qualitative approach might be compared to a human interest or feature story that talks about the personal impact of an event from the perspective of a few individuals.

Combination: Integrating both approaches allows a program evaluator to provide undisputable facts that explain the impact of a program, while adding a rich, human element that indicates how people were affected by the experience.

Writing Impact Statements

Impact statements are concise, but meaningful overviews of program results. They go beyond explaining "What" or "How" to answer the questions "Who cares?" or "So what?" Impact really doesn't happen until at least the "KASA Change" level and isn't as significant until the "Practice Change" and "End Results" levels. Here are some examples adapted from actual, effective impact reports:

Example 1
As a result of Extension-led training, 800 farmers statewide have adopted sustainable agricultural practices, including integrated pest management, crop rotation for disease control, reduced herbicide rates for crop production, refined nutrient management practices, pre-side dress nitrogen testing, and selection of crops best adapted to soils and growing conditions. These practices have resulted in reduced purchased inputs, saving more than $400,000 in pesticide costs on 28,000 acres.

Example 2
In the past five years, seven Extension community economic development agents assisted more than 1,200 community leaders with local economic development. This assistance led to the creation of 10 industrial parks; the expansion, retention, and attraction of 325 businesses and 34 parks; and the creation or retention of 6,807 jobs. These projects involved the investment of $33 million in public infrastructure and $467 million in private sector capital investment in local communities.

Example 3
During a five-year period, 160 youth from an inner-city, high-risk housing project participated in an Extension-sponsored, daily, three-hour after-school program. Expected outcomes included reduced incidents of substance abuse; decreased behavioral problems in school; and an increase in discipline, respect, integrity, and responsibility through training and role modeling. To build grassroots ownership in the program, adults from the housing project were trained and hired as staff. Youth gained an average of 1.4 years in reading test scores and 1.5 years in math during the first year. Academic gains continued every year of the program. Ninety percent of the parents surveyed agreed that their children's behavior had improved as a direct result of participation in the program. Furthermore, 98 percent of the adults completed high school or obtained a G.E.D. certificate during the program.

Use positive results to:

- Market your program to prospective program participants.
- Report to elected officials.
- Incorporate into future funding requests.
- Write scholarly publications.
- Announce to the media via news releases.
- Apply for awards.
- Include in professional credentials (such as promotion/tenure applications).
- Feel satisfaction in accomplishing your goals, achieving results, and benefitting society and your profession.

Use less-than-positive results to:

- Improve programs that have problems but also potential.
- Set priorities, make choices, and eliminate ineffective programs.
- Write scholarly publications, describing what was learned through the process you used. Often, as much can be learned from apparent "failures" as from obvious successes.

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