

JIFSAN Good Aquacultural Practices Program

Effective Training





Effective Training

Education or training programming should be designed to address the predetermined needs of an audience. It should also be designed to achieve predetermined changes in knowledge or skills based upon an identified problem. There are several programming models which demonstrate the process of program development. A well-respected and accepted model is Bennett's programming model. The Bennett's programming model contains the following components:

Model 1, Bennett

- Inputs—The kinds and amounts of personnel and other resources that are used to plan, conduct, and evaluate the educational program.
- Activities—The various learning experiences that are used in the educational program.
- People involvement—The number of people who attend the educational program.
- Reactions/awareness change—Changes in people's awareness and response to educational programs related to the issue or problem.
- Knowledge/skill change—Changes in people's knowledge, understanding, or abilities related to the issue or problem.
- Practice change—Changes in people's behaviors related to the issue or problem.
- End results—Broader changes in people's situations related to preventing, reducing, or solving the issue or problem.

Model 2, Sork and Buskey

A second programming model is the Sork and Buskey programming model. The Sork and Buskey programming model contains the following components:

- Planning—ID goals and objectives, determine/prioritize needs, determine audience.

- Design/Implementation—Selection/development of program content, delivery methods (factsheets, workshops etc..), allocate resources, and timelines for implementation.
- Evaluation/Accountability—Plan/implement procedures to measure program success/impacts, improve program, reporting results.

Development of an effective training course includes planning for effective training, designing and implementing training content, and program evaluation. Based upon the Sork and Buskey programming model, the three main headings for development of our programming model will be Planning, Design and Implementation, and Program Evaluation.

The first part of our programming model is planning. Under program planning we must develop the goals and objectives of our program.

Programming Model: 1- Planning

- ID Goals: Develop a general description of the desired results to be achieved by the program toward the solution of an issue or problem.
- ID Objectives: Provide specific program direction to achieve goals.

After identifying program goals and objectives, the second component under program planning is to determine and prioritize our programming needs. If we are unable to train the entire population, then we must determine which group within the population is best suited to receive training in order to achieve identified program goals and objectives. The program objectives must address identified needs in order to achieve program goals and objectives. These objectives should result in quantifiable results for which we can develop outcome or impact indicators. In order to determine or prioritize needs, we need to conduct a needs assessment. The population we utilize for the needs assessment should be representative of the present status of the population in relation to

the identified issue or problem. To determine and prioritize needs we must:

- Identify the purpose of the survey.
- Identify the target population.
- Identify the size of the population.
- Determine which survey techniques we will use.
- Determine the survey design.
- Pilot test the survey.
- Conduct the survey
- Analyze the results.

Under program planning, once we have determined and prioritized the needs of the population, we must identify the audience for whom the program will be conducted. The audience should:

- Be comprised of the portion of the total population most effected by the identified problem or issue.
- Represent the portion of the population through which identified programming techniques can achieve the greatest resolution to the problem with the resources available.

Under program planning, once we have determined the audience, we need to develop specific objectives designed to achieve determined program goals. In developing objectives:

- Results should be quantifiable in nature.
- Outcome indicators should be developed.

Programming Model: 2- Design and Implementation

The second main category in our programming model is program design and implementation. The items covered in this section must be considered during development of program content, and be oriented toward facilitation of the learning process. Program delivery methods should facilitate the learning process, and be customized/oriented toward program clientele. When allocating program resources, we must pay attention to funds available as well as physical and personnel resource requirements.

Seasonal consideration is required during program development, taking into account limitations

• for identified program clientele. For example, if farmers comprise the program clientele, seasonal consideration for program implementation would identify times of minimal farming activity. Seasonal effects on required resources are also of importance and need to be taken into consideration.

• The first step under program design and implementation is the selection and development of program content to facilitate the learning process.

- Selection and development of program content to facilitate the learning process.
 - Define learning objectives
 - Logically outline and sequence materials
 - Select training methods/instructional strategies
 - Develop lesson plan, timeline
 - Select evaluation materials

• The second step under program design and implementation is selection of program delivery methods.

- Select program delivery methods.
 - Fact-sheets/handouts (take-home materials)
 - Workshops
 - Field trips
 - Lectures

• The third step under program design and implementation is allocation of resources for program implementation.

- Allocate resources for program implementation.
 - Monetary resources: Speaker expenses, meal expenses, material costs, rental fees, promotion and advertising costs, printing costs, evaluation costs, etc.
 - † Can we identify/leverage other stakeholders?
 - Physical resources: Meeting places, demonstration locations, equipment, power, technologies, instructional materials, etc.
 - Human resources: Specialists, co-workers, other collaborative instructors, volunteers, support staff, etc.

The fourth step under program design and implementation is developing a program timeline.

- Timelines for program implementation:
 - Seasonal
 - Resource availability
 - † Monetary
 - † Physical
 - † Personnel

Programming model: 3- Program evaluation

The third main category in our programming model is program evaluation. Program evaluation is a continuous process and must be taken into account during all phases of program development. Program evaluation is designed to measure the impacts of a program, improve an existing program, and/or report program results to stakeholders.

Program evaluation can be either:

- Formative: Designed to improve the program for sequential applications.
- Summative: Designed to quantify program impact, results, output, deliverables.

Data collection is a primary component under program evaluation. Evaluation data can be collected in various ways.

- Observations, analysis of records
- Interviews & surveys
 - Telephone interview: protocols, follow questionnaire.
 - Surveys:
 - † hand deliver
 - † mail
 - † emergence of World Wide Web

Data collection methods should be selected that are appropriate for program clientele. Often surveys are utilized in program evaluation. Factors important to consider during survey development are:

- How did clientele participate?
- What are program strengths/weaknesses, reactions?

- What do clientele know (reaction, awareness)?
 - What are clientele doing differently (practice, behavior)?
 - How has clientele's situation changed (end result)?
 - What are characteristics of clientele (demographic, socioeconomic)
- During program evaluation, response rates can be maximized through application of the social exchange theory. This theory is based upon maximizing individual response rates through development of perceived rewards and minimization of perceived costs for responding. The social exchange theory is designed to:
- Theory designed to explain the development and continuation of human interaction. Based upon perceived:
 - Rewards
 - Costs
 - Designed to increase trust
- Care must be taken during survey development to generate concise and easy to understand questions. Limiting survey length is one example of a consideration to enhance survey response rates.
- Critical factors in survey design:
 - Visual layout, consistency
 - Concise questions
- open ended questions allow the respondent to provide qualitative responses
- closed ended questions require and equal number of positive and negative categories and are more useful for quantitative data.
- Limit survey length
- Prior to releasing surveys to the population, they must be validated for content, understandability, and applicability. This is done through review of the survey instrument by an identified expert panel.
- Instrument validation.
 - Refers to the survey's success at measuring what was set out to be measured
 - † External validity: degree to which study results can be generalized

† Internal validity: rigor of survey design, measures and rational?

- Construct: agreement between theoretical concept and questionnaire.
- Content: extent to which the questionnaire covers entire domain, supported by theoretical theory.
- Face: does survey appear a reasonable approach and method.
 - Established by an expert panel
- Instrument reliability.
 - The extent to which an experiment, test, or any measuring procedure yields the same result on repeated trials.
 - Requires pretesting the survey with a different population

A critical and final step in program evaluation is to be cognizant of and plan to minimize survey error. Sources of survey error include:

- Sample error: resulting from sampling only partial elements of a population
- Coverage error: not allowing all elements of a population to have an equal nonzero opportunity to participate

- Measurement error: poor question wording or presentation resulting in inaccurate or unusable results
- Non-response error: results from incomplete response from the sample population

Review—Effective training

- Summary
 - 1) Program planning
D goals and objectives, determine/prioritize needs, determine audience. .
 - 2) Program design and implementation
Selection/development of program content, delivery methods (factsheets, workshops etc.), allocate resources, and timelines for implementation.
 - 3) Program evaluation/Accountability
Plan/implement procedures to measure program success/impacts, improve program, reporting results.

References

- Dillman, D.A. 2000. *Mail and Internet surveys, the tailored design method* (2nd ed.). New York: John Wiley & Sons.