Evaluating Training Programs

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Section A

Overview and Definitions of Evaluation
**Evaluation** is the comparison of an object of interest against a standard of acceptability.

In this case, the object of interest is the trainees’ performance or achievement of the tasks spelled out in the training objectives.

The standard of acceptability is also the level of achievement specified in the objectives.

Evaluation is an ongoing process.
According to Management Sciences for Health, providing training to staff has many costs:

- The resources involved in preparation, delivery
- Travel and lodging for participants,
- Staff time away from the workplace
Managers Need to Know

To justify these costs, managers need to feel confident that the training will make a difference in staff performance.

That staff members have:

- *Not only acquired new knowledge, attitudes, and skills from the training*
- *But can, and do, put them into practice back on the job*
Types of Training Evaluation

Evaluation begins with
- Needs assessments
- Baseline evaluations
- Input evaluations

And continues with
- Process evaluation

Photo: USAID, The BASICS
Types of Evaluation

Outcome evaluations (this module)

- To assess new or improved: Knowledge, Attitudes, and Skills (KAS)
- After training

Photo: USAID, The BASICS
Types of Evaluation

Impact evaluations of (next module)

- Job performance
- Organizational performance
- Program performance
- Demographic/health indicators

Photo: USAID, The BASICS
Outcome Evaluation: What Are We Looking For?

Evidence that trainees have acquired new knowledge, attitudes and skills (KAS)

Feedback from trainees on their perceived gains or gaps
Trainee impressions on quality of sessions

Specific comments on adequacy of all arrangements

- **Logistics:** Space, facilities, time, comfort …
- **Presentation:** level of comprehensibility, appropriateness, challenge
Tools for Outcome Evaluation

Post-test questionnaire

Observation of trainee performance

Feedback forms

FGDs among participants

Meeting of training committee to:
  - Consider results of above and
  - Summation process evaluations
A **pre-test** can be planned as part of the activities during the very first training session.

Questions should be based on:

- *Diagnostic findings and training objectives*
- *Such tests focus mainly on knowledge*

The same test is repeated at the last session to determine gains in knowledge.
Types of Questions

Types of questions include:

- Open-ended questions
- Multiple-choice questions
- Attitude/opinion statements
Tests need to achieve a balance between

- Covering the scope of training knowledge and
- Being simple enough to complete in 30 minutes or less
Open-Ended Questions

Examples

- List all the ingredients that can be mixed together for a homemade solution for oral rehydration
- Describe the danger signs of dehydration
- Mention the steps for making homemade ORS

Open-ended interviews are useful for low literacy trainees
Multiple-Choice Questions

From the list, check all the items that can be mixed together for a homemade solution for oral rehydration

- Sugar
- Soft drink
- Salt
- Vegetables
- Water
### Attitude Items at Pre-Test

<table>
<thead>
<tr>
<th>Item</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers can be trusted to mix ORS at home</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>It is best for the mother to bring a child with diarrhea to the clinic for management</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is inconvenient to teach mothers at clinic to manage diarrhea</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Telling mothers how to make ORS is adequate to ensure they know what to do</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Knowledge scores

PMV Training committee was formed

PMVs requested lessons on common illnesses and skills such as reading a prescription

Either clerk or owner attended, not both

Pre/post test enhanced by using control
Ensuring There Was Really a Gain

The two sets of PMVs were not identical

- 33 took pre-test, 37 took post-test

A paired t-test was calculated for the 28 individuals who took both tests

Their pre-test (46.0%) and post-test (70.8%) scores showed the significant gain at post-test

- \( t = 12.161, p < 0.001 \)
- Thus a need for identifiers to match tests
PMV Training in Kenya: Quality Assurance Project

**Goal:** To equip PMVs with customized job aids to communicate new malaria guidelines to private drug outlets

All were taught to educate customers and train other PMVs on malaria recognition and prompt treatment
### Specific Malaria Knowledge, by Intervention Status

<table>
<thead>
<tr>
<th>Main Malaria Messages</th>
<th>Intervention (n=101)</th>
<th>Control (n=151)</th>
<th>Total (n=252)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever is main symptom of malaria</td>
<td>94.1</td>
<td>94.7</td>
<td>94.4</td>
</tr>
<tr>
<td>Fansidar is more effective than other drugs</td>
<td>92.1</td>
<td>85.4</td>
<td>88.1</td>
</tr>
<tr>
<td>Fansidar is not too strong for children *</td>
<td>69.3</td>
<td>47.4</td>
<td>56.3</td>
</tr>
<tr>
<td>Fansidar and panadol is correct treatment *</td>
<td>88.1</td>
<td>64.2</td>
<td>73.8</td>
</tr>
<tr>
<td>Fansidar is a single dose treatment *</td>
<td>83.2</td>
<td>64.9</td>
<td>72.2</td>
</tr>
<tr>
<td>Fansidar can be sold in shops *</td>
<td>76.2</td>
<td>43.7</td>
<td>56.7</td>
</tr>
<tr>
<td>Continue feeding child with malaria</td>
<td>95.0</td>
<td>90.1</td>
<td>92.1</td>
</tr>
<tr>
<td>Don’t sell another drug if child gets worse *</td>
<td>91.1</td>
<td>71.5</td>
<td>79.4</td>
</tr>
<tr>
<td>Don’t always sell what is demanded *</td>
<td>87.1</td>
<td>65.6</td>
<td>74.2</td>
</tr>
<tr>
<td>Shouldn’t sell smaller doses of drug *</td>
<td>95.0</td>
<td>82.8</td>
<td>87.7</td>
</tr>
</tbody>
</table>

* Significant at p<.01
Trainees Respond Differently

- Std 1-8* (n=60)
  - Intervention: 8.1
  - Control: 6.2

- Form 1-4** (n=158)
  - Intervention: 8.8
  - Control: 7.2

- Form 4 (n=28)
  - Intervention: 9.2
  - Control: 8.6

* indicates p < .001, ** indicates p < .000

Colors represent Intervention (blue) and Control (cyan) groups.
Ibadan, Nigeria

17-point knowledge test

- What structure of the eye is responsible for image formation?
- What are three common causes of blindness
- Name two ways of detecting visual problems in pupils
CDT in onchocerciasis control

- Attitude statements
- Communities are quite capable of managing the distribution of ivermectin
- Onchocerciasis control should be best run by the district (as opposed to state or national levels)
More Attitudes Statements

Community involvement in ivermectin distribution saves the time of the health worker for doing other things

Health workers in this community cannot handle ivermectin distribution because they are over-worked

Health workers do not believe that community-directed distribution of ivermectin is the best way to make ivermectin available to the people
Health Worker Attitudes Change

![Bar Chart]

mean attitude score

Group/Time

Pre-Test
Post-Regular
Post-Enhanced

27
### Teachers Self-Efficacy for Testing Visual Acuity

<table>
<thead>
<tr>
<th>Task</th>
<th>Very Capable</th>
<th>Capable</th>
<th>Unsure</th>
<th>Not Capable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognizing a child with visual problems</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using a visual acuity chart</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Interpreting chart/test results</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Knowing when to make a referral</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
One often expects knowledge gains in both groups.

Exposure to testing procedures creates some knowledge.

In this case exposure to skill test at pretest decreased control teachers confidence.
Tests: A Summary

Pre-/post-tests document knowledge gains

Matching results insures that individuals actually had significant gains or not

Using a control (e.g., people coming for a future round of training) ensures effect was due to program
Looking at individual questions/sections helps identify problem areas

Finally, comparisons are needed by trainee background
Section C

Observation, Feedback, and Analysis
When we were developing training objectives, we mentioned the words:

- Behavior, observable, measurable

A checklist enables us to observe and measure trainee behavior.

The checklist spells out the specific steps or tasks one would expect the trainee to perform at the end of the program.
<table>
<thead>
<tr>
<th>Patient Counseling Checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Establish a cordial relationship with the client through greetings and introductions</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Uses open-ended interviewing to encourage the client to speak fully for him/herself</strong></td>
</tr>
<tr>
<td><strong>Practices active listening; is attentive and does not interrupt</strong></td>
</tr>
</tbody>
</table>
Materials and instructions were provided

- On the table is a Snellen visual acuity chart, an opaque cover, a frame inserted with +1.00 power lenses, and a meter rule
- Please assess the visual acuity of these pupils at an appropriate distance giving clear and audible instructions
Record your findings

- Make an assessment on the state of each child's visual acuity and ocular condition on the sheet of paper provided
- There were eight steps
In addition to obtaining information on trainee knowledge and skills, trainers can obtain feedback on satisfaction with the quality of the program.

Trainees can rate aspects of the program on one-page forms, as seen in the next slide.

These forms are filled out anonymously.
Simple Feedback Forms

Check the column that best shows your opinion of the program (1=never; 5=often)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that I will be able to use what I learned</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. The program was presented in an interesting manner</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. The training facilities met my needs</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The program covered the promised objectives</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The trainers encouraged participation and questions</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
Plus Open-Ended Questions

What did you find most useful in the program?

What did you find least useful?

What suggestions do you have for improving the program?
Focus Group Discussions (FGDs)

FGDs not only provide feedback to the trainers, but also allow the trainees to integrate their experiences.

FGDs should have no more than six members.

These should be scheduled toward the end, possibly over lunch.

The room or space used should offer privacy.
One valuable use of the **FGD method** is to bring together trainees who observers thought were too quiet during sessions.

This would give them a chance to air their views and provide evidence of learning.
FGDs offer an opportunity to think about the future application of knowledge and skills gained.
In FGDs, Think about “Back on the Job”

It is not enough to document that trainees have acquired new KAS before they leave.

Silberman suggests trainees consider how they will apply the new KAS when they return.
This discussion is an evaluation of the practicality and feasibility of the new KAS

- *And a way to learn problem-solving skills*

Engaging in realistic discussion identifies obstacles for applying new knowledge and implementing new skills
Planning for “Back Home”

Developing action plans based on these discussions helps one apply new KAS

- Including a plan to monitor oneself

This will prevent disappointment when enthusiastic returned trainees meet a wall of indifference or jealousy
Training needs to equip people with skills, knowledge, attitudes

This may not be enough

VHW trainees are given drug boxes so that they can start work immediately
Finally, Use Test Results and Feedback

Training committee should summarize results as soon as possible

Identify gaps that need attention during follow-up visits and correspondence

Improve the design of the next program