What is Evaluation?

Many people think that evaluation of Education and Training is about checking that “things were okay” during the training. Where evaluation happens it is often characterised by “happy sheets” which usually check with the learners that the conditions for learning were “okay” and how highly the learners rate the facilitator and the training as a whole. In fact, this is only a part of what evaluation is about.

Education and Training should be evaluated as robustly as any activity which uses up precious resources and it is important that a form of measurement is introduced so that not only is the quality of the learning experience measured in some way, but also the impact of the learning experience on the learner, their work and subsequently the patients cared for by their organisation.

With this, more robust, model in mind it would be better to think of evaluation as a form of measurement of effectiveness… a form of…assessment.

In this section of the Good Practice Guide we will be looking at theories around evaluation of education and training and how it is possible to measure not only the quality of the learning experience, but also the impact on the learner and the extent to which they have used their new skills and knowledge. This approach fits with NHS employers growing desire to demonstrate outcomes and outputs for the resources invested.
Why evaluate education and training?

Evaluation is vital because it should enable an organisation to gauge whether:

- the teaching and facilitation techniques and methods used are worthwhile
- we are making the best use of our resources
- the trainer or facilitator requires development
- the education and training function/team/service is supporting the organisation to develop its staff and its services
- the education and training function is contributing well to the recruitment and retention functions of the organisation
- workers, and the services they provide are improving as a result of the investment in their development
- teaching and facilitation materials need to be improved
- there is a need for further investment in education and training

Evidence from trainers

Evidence from a significant number of people involved in education and training in the NHS indicates that organisations are aware of a need to evaluate but they often struggle in getting to grips with actually doing it, or getting the information they want from the evaluation.

Methods of assessment

Questionnaires are the most frequently used method of evaluating or assessing the effectiveness of education and training and they can be very effective. The trick here is to focus on the real issue. If the questionnaire approach is not working, don’t necessarily abandon the method, just re-examine the quality of the questionnaire. Set out later in this section is a questionnaire which has been built by the All Wales Workforce Development and Education Forum which has been tested robustly.
### Issues to consider when designing evaluation of education and training

- Evaluation should have a purpose. Think about why you are measuring and what information you want to get out of the process before selecting a tool.
- What are the objectives and learning outcomes for the session? The evaluation should aim to measure whether you have achieved them. This is very important because it moves the education and training close to how accredited learning operates.
- Decide who is going to collect the information and how it is going to be collected and collated. The responses may be affected for example if the trainer is going to ask about the quality of a session, participants may not want to give negative responses.
- How often is the evaluation going to take place?
  - Is this going to be a routine activity after each session?
  - Is this something that will be done every so often or a one off event for example after the introduction of new methods or materials?
- Are you going to collect baseline data so that you have a yardstick for measurement?
- A general rule is that evaluation should be as simple and economical as possible (particularly if evaluation is going to be undertaken on a routine basis).

### Tips for evaluating

Evaluation can be difficult but it is essential because it helps the education and training functions to improve and demonstrates the quality and impact of the service it provides to the organisation.

#### Identifying users’ perceptions of knowledge and skills

One method of identifying whether the training you have given has had an effect is to ask learners whether they feel their knowledge and skills have improved following training. This requires a word of caution - research in this field has shown that learners can over estimate or underestimate their skills. This may be due to the fact that, quite legitimately, their confidence has increased. It is a worthwhile activity if there is verification available.

This approach is better for knowledge acquisition than skills and even better is assessment or witness testimony, preferably from the workers manager, to get an objective view.

#### Assessing users’ skills

Assessing participant’s skills is a good method of evaluating whether education and training has been effective, ie have participants learned what you intended to teach them as a result of the training – have the learning outcomes or objectives been met?

Assessing is the most effective method but it is also the most time consuming and learners can be intimidated by testing. Any form of assessment should be unobtrusive and accompanied by reassurance.

Using assessment combined with a questionnaire gives a highly robust method.
Theoretical Approaches

There are numerous theories about evaluating learning but it is worth focusing on one or two of the most famous:

Donald L Kirkpatrick’s Evaluation Model
– The four levels of learning evaluation

Kirkpatrick stated that there are four levels of learning evaluation and that there should be measurement of each of the four levels. All these measures are recommended for full and meaningful evaluation of learning in organizations, although their application broadly increases in complexity, and usually cost, through the levels from level 1-4.

The four levels of Kirkpatrick’s evaluation model essentially measure:

- reaction of learner – what they thought and felt about the education and training
- learning – the resulting increase in knowledge or capability
- behaviour – extent of behaviour and capability improvement and implementation/application
- results – the effects on the business or environment resulting from the learner’s performance
Kirkpatrick’s four levels of training evaluation in detail

This diagram illustrates how Kirkpatrick’s theory can be applied to a process for evaluating learning. Start with the Learning Environment in the block on the left and work through the process.
## Kirkpatrick’s Four Levels of Evaluation

<table>
<thead>
<tr>
<th>Level</th>
<th>Evaluation Type (what is measured)</th>
<th>Evaluation Description and Characteristics</th>
<th>Examples of Evaluation Tools and Methods</th>
<th>Relevance and Ease of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reaction</td>
<td>Reaction evaluation is how the delegates felt about the training or learning experience</td>
<td>eg., ‘happy sheets’, feedback forms; also verbal reaction, post-training surveys or questionnaires</td>
<td>Quick and very easy to obtain; Not expensive to gather or to analyse</td>
</tr>
<tr>
<td>2</td>
<td>Learning</td>
<td>Learning evaluation is the measurement of the increase in knowledge - before and after</td>
<td>Typically assessments or tests before and after the training; Interview or observation can also be used</td>
<td>Relatively simple to set up; clear-cut for quantifiable skills; Less easy for complex learning</td>
</tr>
<tr>
<td>3</td>
<td>Behaviour</td>
<td>Behaviour evaluation is the extent of applied learning back on the job - implementation</td>
<td>Observation and interview over time are required to assess change, relevance of change, and sustainability of change</td>
<td>Measurement of behaviour change typically requires cooperation and skill of line-managers</td>
</tr>
<tr>
<td>4</td>
<td>Results</td>
<td>Results evaluation is the effect on the business or environment by the trainee</td>
<td>Measures are already in place via normal management systems and reporting – the challenge is to relate to the trainee</td>
<td>Individually not difficult; unlike whole organisation; The process must attribute clear accountabilities</td>
</tr>
</tbody>
</table>

Since Kirkpatrick established his original model, other theorists (for example Jack Phillips), and indeed Kirkpatrick himself, have referred to a possible fifth level, namely ROI (Return On Investment). ROI can easily be included in Kirkpatrick’s original fourth level, ‘Results’.
Benjamin Bloom’s “Taxonomy of Learning Domains”

Bloom’s Taxonomy, (in full: ‘Bloom’s Taxonomy of Learning Domains’, or strictly speaking: Bloom’s ‘Taxonomy Of Educational Objectives’) was created for academic institutions but it is applicable and relevant to all types of learning.

Bloom asserted that education and training should be oriented towards ‘mastery’ of knowledge and skills and the development of higher forms of thinking. He stated that that most teaching was focused on “fact-transfer” and “information recall” - the lowest level of training - rather than true meaningful personal development.

De-Mystifying Bloom’s Taxonomy

**Taxonomy** means ‘classification principles’, or ‘structure’, and **Domain** simply means ‘category’.

Bloom’s Taxonomy provides a structure for planning, designing, assessing and evaluating education and training and the effectiveness of the learning experience. The model also serves as a sort of **checklist**, by which you can ensure that training is planned to deliver all the necessary development required by the learners.

Bloom’s Taxonomy model is in three parts, or ‘overlapping domains’.

1. **Cognitive domain** (intellectual capability, ie., **knowledge**, or ‘**think**’)
2. **Affective domain** (feelings, emotions and behaviour, ie., **attitude**, or ‘**feel**’)
3. **Psychomotor domain** (manual and physical skills, ie., **skills**, or ‘**do**’)

In each of the three domains Bloom’s Taxonomy is based on the premise that the categories are ordered in degree of difficulty. An important premise of Bloom’s Taxonomy is that each category (or ‘level’) must be mastered before progressing to the next. As such the categories within each domain are levels of learning development, and these levels increase in difficulty.

The simple matrix structure enables a checklist or template to be constructed for the design of learning programmes, training courses, lesson plans, etc. Effective learning - especially in organisations, where training is to be converted into organisational results - should arguably cover all the levels of each of the domains, where relevant to the situation and the learner.
Bloom’s Taxonomy

This pyramid depicts the different levels of thinking we use when learning. Notice how each level builds on the foundation that precedes it. It is required that we learn the lower levels before we can effectively use the skills above.

- **Knowledge**: Memorizing verbatim information. Being able to remember, but not necessarily fully understanding the material.
- **Comprehension**: Identifying connections and relationships and how they apply.
- **Application**: Using information to solve problems; transferring abstract or theoretical ideas to practical situations.
- **Analysis**: Identifying components; determining arrangement, logic, and semantics.
- **Synthesis**: Combining information to form a unique product; requires creativity and originality.
- **Evaluation**: Making decisions and supporting views; requires understanding of values.

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Responsibility for Evaluation of Education and Training

Traditionally, evaluation or other assessment has been left to the facilitators and trainers. However, true responsibility lies with all levels of management.

• **Senior management** (Who allocate resources to support and fulfil the need for developing staff to meet quality standards)

• **Operational middle management** (Who are responsible for the development and delivery of high quality, effective and efficient services)

• **Operational line management** (Who are responsible for managing and developing the work of their staff in order to deliver quality services)

• **Training managers** who are responsible for designing, creating and ensuring the delivery of high quality learning that supports the operational services in delivering high quality services

• **Educators and Trainers** who are responsible for imparting the knowledge, skills and behaviours required by the workers to meet the standards expected by their management and by patients

• **Learners** who are responsible for feeding back to the educators and trainers, training managers and their own management about the quality of the learning and development they have undertaken in order to be able to function well.

Pulling evaluation together – Checklist

It is worth thinking through how this can be brought together.

What is required is a system, process and administration for evaluation that:

• Ensures that all stakeholders in education and training fulfil their responsibilities for evaluation

• Ensures that there is an opportunity for assessment of the learners development by the learner, the facilitator/trainer and by the person’s manager/supervisor

• Enables learners to feed back on the quality of the learning experience

• Is able to demonstrate the impact of staff development in operational services

• Supports the demonstration of return on investment

• Enables the organisation to learn from evaluation to improve education provision

• Is in keeping with known and accepted theories and good practice in evaluation

• Is relatively easy to administer, collect and collate
A Sample Process Flowchart

The process suggested here has been constructed and tested by the All Wales Workforce Development and Education Forum. This is a simplified model but it is the core of how the three key elements of Bloom’s Taxonomy and Kirkpatrick’s four levels, plus return on investment can be achieved.

As part of a KSF Development Review a Personal Development Plan (PDP) is constructed which may require learning opportunities such as courses, accredited learning, workshop, CPD etc.

Part 1 of the evaluation is undertaken by the facilitator/teacher/lecturer and involves a form of assessment to gauge how well the learner has developed.

Part 2 of the evaluation is an opportunity for the learner to feedback on how effective they felt the learning event was in terms of their development.

Part 3 of the evaluation enables the workers manager to feedback on how effective, over time, the learning has been in supporting and enabling the worker’s development.

This information is invaluable to a training department and they can use this to make quality improvements.

Set out overleaf are some sample forms which facilitate this process and which can be used or adjusted according to local need.
### 1) Review of Your Learning

Please complete the following quiz by ticking or completing the correct answer:

<table>
<thead>
<tr>
<th>Q1: Question</th>
<th>A: Answer option</th>
<th>B: Answer option</th>
<th>C: Answer option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2: Question</td>
<td>A: Answer option</td>
<td>B: Answer option</td>
<td>C: Answer option</td>
</tr>
<tr>
<td>Q3: Question</td>
<td>A: Answer option</td>
<td>B: Answer option</td>
<td>C: Answer option</td>
</tr>
<tr>
<td>Q4: Question</td>
<td>A: Answer option</td>
<td>B: Answer option</td>
<td>C: Answer option</td>
</tr>
<tr>
<td>Q5: Question</td>
<td>A: Answer option</td>
<td>B: Answer option</td>
<td>C: Answer option</td>
</tr>
</tbody>
</table>

This section is to be completed by the programme tutor/facilitator/trainer

<table>
<thead>
<tr>
<th>Total Quiz Score</th>
<th>Comments</th>
</tr>
</thead>
</table>

**Recommendation:**

- Satisfactory completion: □
- Further development: □

Name of facilitator/trainer/tutor: □

Signed: □

Date: □
1) Please indicate the overall standard of today’s course (consider: trainer, style, content, venue, handouts etc):

<table>
<thead>
<tr>
<th>Please circle as appropriate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
</tr>
<tr>
<td>Fair</td>
</tr>
<tr>
<td>Good</td>
</tr>
<tr>
<td>Excellent</td>
</tr>
</tbody>
</table>

Learner Signed: Date:

2) Please can you give us a bit more information…

What went well?

What could be done better?

3) How often will you use the skills and/or knowledge you have gained from this course, in your workplace?

<table>
<thead>
<tr>
<th>Please circle as appropriate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
</tr>
<tr>
<td>Weekly</td>
</tr>
<tr>
<td>Rarely</td>
</tr>
<tr>
<td>Never</td>
</tr>
</tbody>
</table>

4) Please can you give us a bit more information…what are the reasons for your answer to Question 3?

5) Please tell us about two aspects of your work/behaviour which will change as a result of today’s learning and what impact will it have on the service?

A:  

B:  

6) Who will you share your new skills and knowledge with?

7) Your views on our courses are important, so please add any other comment/s that you wish to make:

Learner Signed: Date:
Manager/Reviewer Section:

(This section is to be completed by the manager in preparation for the individual’s first Personal Development Review which includes KSF, following this learning event. A copy of this page is to be returned to the Staff Development and Training Section as soon as possible after the Personal Development Review)

<table>
<thead>
<tr>
<th>Learner Name:</th>
<th>Learning Programme/event:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of learning programme/event:</td>
<td>Objectives: • Programme/event objectives • Programme/event objectives</td>
</tr>
</tbody>
</table>

1) How often does the member of staff use the skills and/or knowledge they gained from this programme/event, in the workplace?

Please circle as appropriate:

| Daily | Weekly | Rarely | Never |

2) Please can you give us a bit more information…what are the reasons for your answer to Question 1?


3) Please tell us about two aspects of this person’s work/behaviour which have changed as a result of the learning, and what impact has it had on the service?

A: B:

4) How has this learning been shared with other colleagues?


Confirmation that this course, learning and associated Actions/Impact were discussed during the learners Development Review or other appropriate 1-to-1 session:

| Manager Signed: | Date: |
| Learner Signed: | Date: |

Please return a copy of this page to:
Suggested further reading:


For advice and guidance on locating references please contact the NLIAH Learning Laboratory on 01443 233333.

For further information contact:

Workforce Development Unit
National Leadership and Innovation Agency for Healthcare
Innovation House
Bridgend Road
Llanharan CF 72 9RP
Tel: 01443 233333
Direct Line: 01443 233464
Fax: 01443 233331

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