

Evaluation Techniques

1 Overview

This lecture will focus on the evaluation process and will answer the following questions:

- What is evaluation?
- What to evaluate?
- How to evaluate?

The outcome of this session will be your project evaluation report which is detailed later.

2 What is Evaluation?

Evaluation is an attempt to appraise the quality/suitability of a resource. It is not the same as Assessment (at least not here in the UK). There are many reasons why we might want to perform an evaluation. Here are some of them:

- Selection – which resource is better?
- Monitoring – is our development heading in the right direction?
- Justifying – show something is value for money.
- Validating – did we make the right decision?
- Improving – can we improve if we change something?
- Research – add to a body of knowledge.

2.1 Formative and Summative Evaluation

There are two different types of evaluation:

- Formative Evaluation - This evaluation takes place **during** the project to guide future development.
- Summative Evaluation – This evaluation takes place **after completion** of a project to appraise its success.

To illustrate the difference between the two, consider this sentence:

When a cook tastes the soup, it is formative evaluation; when the dinner guest tastes the soup it is summative evaluation.

3 Integrative Evaluation

- The context in which a resource is used affects how useful it is.
- Formative/summative evaluation *during* the use of a resource for teaching and learning
- Formative/summative evaluation *of* the use of a resource for teaching and learning

4 What to Evaluate?

There is no simple answer to this; it depends on “Stake holder” concerns.

4.1 Stake Holders

Stake holders are people or organisations who are affected by the success or failure of what you are evaluating.

- If the university was implementing a new online learning scheme for its students, the stake holders might be the following:
 - Students
 - Lecturers/teachers
 - Institution/department/school management
 - IT support officers
 - Other support services (staff development, library)
 - Funders
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- These stake holders may have a number of concerns such as:
 - Will this new online learning scheme improve learning?
 - How much will it cost?
 - Will it provide students easier access to teaching materials?
 - Will students be motivated to use it?
 - How easy will it be to use?
 - What will its effect be on other systems/processes?

4.2 Example – EASEIT-ENG

The following example takes a real project EASEIT-Eng which was part of the third phase of the Teaching and Learning Technology Programme. EASEIT-Eng aimed to assist engineering academics in selecting learning technology material, for use in their teaching that was right for both them and their students.

- From the mission statement...
“...enable an academic tutor to make an informed choice from a range of evaluated computer based materials...”

We will look at what was evaluated.

- Usability
 - Navigation
 - Online help
 - Error trapping
 - Use of colour
 - Ease of installation
 - Media use
 - System requirements
 - ...
- Pedagogic aspects of the project
 - Potential role
 - Clearly stated objectives
 - Assessment and feedback

- Challenge and motivation
- ...
- Integration into course
 - Reason for wanting to use CAL
 - Number of students
 - Availability of computers
 - Is CAL perceived as “optional extra”?
 - Relevance to subject of course

5 How to Evaluate?

There are many different methods of evaluation. The following section will outline the most commonly used techniques.

5.1 Checklists

A checklist is a list of action items, steps, or elements needed for a task. Each item is checked off as it is completed.

- Uses:
 - Making sure early version of software conform to standard guidelines
 - Checking whether a range of materials meet your criteria
- Pros:
 - Can be cheap and easy
 - Can apply to prototypes
 - Quick – can cover a lot of factors
- Cons:
 - There is a degree of interpretation needed
 - Not much depth or richness to the information gathered

5.2 Questionnaires

A questionnaire is comprised of a series of questions and can be used as a survey instrument or a discussion guide.

- Uses:
 - Obtaining feedback from a large number of students
 - Obtaining semi-quantitative ratings from students – e.g. Likert scale questions
- Likert Questions
 - These types of questions have the form – “circle 1 if you disagree strongly, 2 if you somewhat disagree, through to 5 if you agree strongly”.
- Pros:
 - Can get input from many people
 - Can get quantitative input

- Cons:
 - Can be difficult to get questionnaires returned
 - Often only get simplest form of question completed – no extra comments
 - Questions may be misinterpreted

5.3 Interviews

An interview is a conversation between two or more people where questions are asked to obtain information about the interviewee.

- Uses:
 - Anything that requires more than a two-word answer
 - Anything where the questions need explaining
 - Explorative work

There are various different types of interviews. Here are a few of the most common:

- Closed – like a spoken questionnaire
- Conversational – let the interviewee take the lead
- Can be one-to-one or involve a (focus) group

- Pros:
 - Open-ended – you can pick up on important issues as they are raised
 - Can make sure questions are understood
 - Rich information – a debate may occur between interviewees allowing you to capture the reasons behind their answers, not just their answers

- Cons:
 - Time consuming for informant and evaluator

5.4 Other Techniques

Listed below are some other frequently used evaluation techniques:

- Observation
- User diaries/logs
- Nominal group technique
- Controlled experiments
- Pre-post testing
- Concept maps
- ...And many more

See LTDI Evaluation Cookbook for more:

<http://www.icbi.hw.ac.uk/ltdi/cookbook/>

6 Your Evaluation Report

Your project evaluation report should detail:

- The concerns you addressed
- The methods you used

- The data gathered
- What was inferred
- Conclusions/recommendations