

## Centre for Excellence in Enquiry-Based Learning

### Evaluating EBL development activities: The CEEBL Evaluation Strategy explained

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## **Introduction**

This document provides (i) a concise statement of evaluation strategy and (ii) advice on conducting evaluation. It builds upon the Evaluation Strategies of other LTEA (Learning Through Teaching Alliance) CETLs: SCEPTRe (Tait 2006) and CILASS (Levy 2006), *Notes towards an Evaluation Strategy: Frameworks for Evaluating the Impact of CEEBL* (Moore 2006) and discussions with CEEBL's external evaluator (Baume 2006). It is intended to be the first line of support for all those involved in CEEBL. For further advice and support, please do contact Norman Powell [Norman.Powell@manchester.ac.uk](mailto:Norman.Powell@manchester.ac.uk)

## **(i) The Strategy**

### **CEEBL's Mission**

Enquiry-Based Learning (EBL) is an open, flexible, social and supported form of learning that values, stimulates, nurtures and rewards people's capacity for and process of enquiry.

Our mission is to expand and enhance the practice, understanding and profile of Enquiry Based-Learning (EBL), institutionally, nationally and internationally, with the result that everyone engaged in CEEBL and EBL will become capable, committed, curious, collaborative, scholarly and life-long learners through enquiry.

### **Model of CEEBL's Support**

The support CEEBL provides can be modelled as an inverted pyramid (figure 1), with the students at the top-level. It is students' experience and learning on which we ultimately intend to have a positive impact. Supporting the students' learning are members of staff developing the curriculum and facilitating their learning. Staff involved with EBL may be supported by CEEBL through formal means, such as the faculty and small projects<sup>1</sup> or through more informal contact, such as consultations and workshops. Supporting these members of staff will be the student interns and faculty coordinators, who are supported in turn by the core CEEBL team. Interactions between these levels are open, rich and flexible, responding to interests, practicalities and needs.

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<sup>1</sup> Faculty projects are supported for three years and represent a significant change in the curriculum. Small projects are supported for one year to a lesser level and usually focus on the whole or part of a single unit.

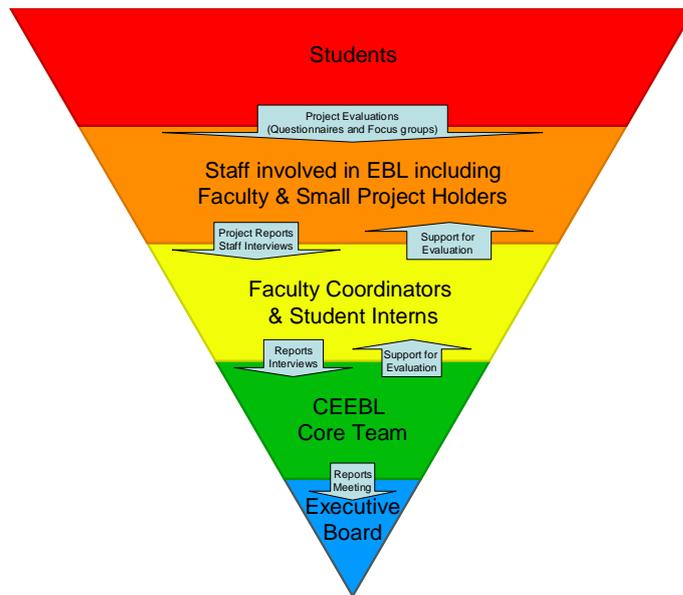


Figure 1: Model of CEEBL

## Evaluation Strategy

Chelimsky (1997) identifies three purposes for evaluation:

1. Accountability, monitoring whether the process achieves its intended outcomes;
2. Development, providing information to help improve the process;
3. Knowledge, to obtain a deeper understanding about the process and its participants.

To this a fourth purpose may be added (Baume 2006):

4. Capacity building, providing those engaged in the process of evaluation with the ability to evaluate, in order to support their own processes of enquiry and critical thinking.

Evaluation is closely aligned with research and scholarship, all three processes being driven by the process of enquiry (figure 2). Enquiry encompasses all three of these activities. The materials generated for evaluation can be used for research. Both should be informed by and inform scholarship (Moore 2006, developed from Levy *et al.* 2006).

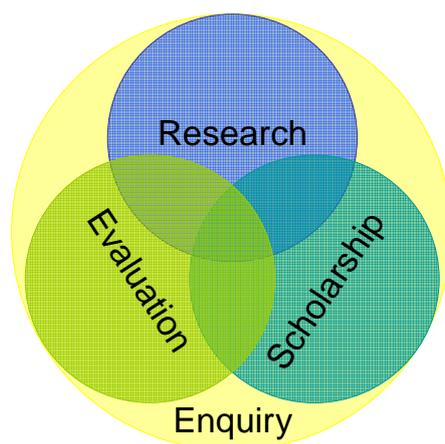


Figure 2: Venn diagram linking Evaluation, Research and Scholarship to Enquiry

(after Levy *et al.* 2006)

We have adopted an open, devolved and fractal-like model of supported self-evaluation:

- Open: each participant will have differing aims, emphasis, experience and interpretations, of EBL (within CEEBL's core account of EBL) and of evaluation (within the broad account of evaluation given in this strategy). This diversity will be valued and supported.
- Devolved: the responsibility for evaluation is transferred up to the highest possible level of activity (figure 1). Staff will be evaluating the effect of their innovations on their students. In some cases, learners will be setting their own learning outcomes and evaluating whether they have achieved them.
- Fractal-like (or scale-independent): essentially the same model of evaluation will be used to evaluate CEEBL as a whole as well as all the activities that CEEBL is engaged in, up to individual projects and individual learning.
- Supported: participants will be helped and aided by colleagues in the supporting layer below (figure 1). Other colleagues may support the evaluation by providing external and internal perspectives and comments on the processes.
- Self-evaluation: everyone should evaluate the effects of their actions, at each level of operation.

At each level of figure 1, participants will be responsible for (Moore 2006):

- Evaluating their the impacts and outcomes of their activities;
- Providing evidence, feedback and constructive criticism for the level below;
- Providing support for the levels above.

## ***(ii) Frameworks for Evaluation***

The following frameworks for evaluation are overlapping, and represent eclectic sources of both quantitative and qualitative evidence. In this document, 'learner' is used for students and other people engaged in CEEBL and EBL at various levels.

### **Outcomes-Based (Baume 2003)**

In order to evaluate an activity you should try to establish clear outcomes or goals. Clear outcomes are both valuable (goal-orientated) and evaluable (demonstrable):

- Valuable: reflect the purposes and values of the activity, focusing on why the activity is being done, and what it is intended to achieve, not on how it will be done;
- Evaluable: the achievement of the outcomes can be evidenced in some appropriate form.

Establishing clear outcomes will involve an iterative dialogue between these two aspects, perhaps developed in conversation with colleagues.

For a proposed CEEBL activity, it is also necessary to consider how the activity will interact with CEEBL's mission and the definition of EBL, given above. It is not necessary to try to cover every element of the definition. You will have your own priorities, emphases and interpretations. You should make these explicit.

### **Validity of Evaluation**

Evaluation, like the assessment of student work, should be as valid as possible. The evaluation reported should be consistent with the data gathered. For example, if you want to show that learners have attained some particular new ability, ideally you would provide evidence of them demonstrating this ability. You need to be clear what your data do and do not demonstrate.

The kinds of valid evaluation data that be gathered by questionnaire and interview are restricted. Often different data will be needed.

### **Proxies (Baume 2003)**

Sometimes the measurement of the intended outcomes will be beyond the time-scale or scope of the activity. In such cases, you may need to be content with measuring some proxy that indicates or represents ultimate success: for example, learners' perception of their ability rather than learners' actual demonstrated ability, through interviews or questionnaires, or a description of the how they would attain it through the learning activities designed. It is important to be clear about this when the evaluation is reported.

## **Baseline data**

It is much easier to show that you have made a difference in, for example, a particular student ability if you know something about this level of ability before your intervention. Such baseline data should be collected at the earliest possible stage of the project. Deciding what baseline data to collect can be a valuable stage in defining the project. This could be captured through a pre-course test or questionnaire.

## **Where possible, use naturally-occurring data and processes**

You should seek to make use of elements that are already present in your activity or learning environment:

- If you are already asking learners about their preferred learning styles or team-roles, capture and use this information for your project.
- If assessment is already part of your environment, it is recommended that it should be constructively aligned with the intended learning outcomes of the course (Biggs 2003). The marks on a particular assessment task say something about students' particular capabilities. The work that students produce for assessment will give you insights into their conceptions and misconceptions.

## **Feed evaluation data back to the Evaluand**

The information collected by the evaluator should also be useful to the person being evaluated, the evaluand. Evaluation tools can be used to enhance the learning environment. For example, the information elicited from the learners could provide material for them to focus on in their reflections on learning or to feed into assessment activities. For instance, returning a pre-course self-skills audit after the post-course audit has been completed.

## **Evaluation of Training (Kirkpatrick 1996)**

A useful model for the evaluation of learning or training activities is to consider the following levels:

1. Reaction: how the learners liked the programme;
2. Learning: what skills and knowledge the learners acquired;
3. Behaviour: how the learners changed their behaviour;
4. Results: impact on system, this could be the module, programme, school, institution and/or society, depending on the location of the activity.

## **Unintended Outcomes**

In addition to the outcomes that were intended, it is also important to look out for other consequences of the activity, positive or negative; that

is, for unintended outcomes. These are best captured through more open forms of observations, questions and enquiry described below, such as: *What else happened?*

### **Goal-free Evaluation (Scriven 1973)**

Open questioning that does not assume what the outcomes are can provide insight into what really was learnt. For example: *What did you learn from this activity?*

### **Appreciative Enquiry (Cooperrider 2001)**

Evaluation sometimes brings an emphasis on the negative aspects of an activity, leading to a critical or deficit account. By asking unconditional positive questions, the focus shifts to the more creative, generative and enjoyable parts of the learning experience. You should capture these. This allows you to focus on the benefits of the activity and exploit them. For example: *What did you most enjoy about the process?*

### **Context-free Questions (Gause and Weinberg 1989)**

Learners may be developing the skills and abilities that interest you outside the confines of the project, even outside of their University activities. It may be useful to try to find out about these areas, so that you can learn how they work, and perhaps adopt them. For example: *Where are you learning most about teamworking...?*

### **Integrative Evaluation (Draper *et al.* 1996)**

To help understand the learning experience, it is useful to collect a number of different types of information about the learners and their experience. These could include preferred learning styles, use of resources, perceptions and attitudes. Information could come from a variety of sources, including observations, questionnaires, interviews, focus groups and reflective statements.

### **Facilitators' Perspective**

In addition to the learners' perspectives, the perceptions and reflections of the people involved in facilitating and supporting the learning process will provide a different and valuable perspective.

### **Triangulation**

Drawing together these disparate, multiple sources of evidence, and understanding where they support each other or why they appear to contradict each other, can be an illuminating process in itself.

### **Unpacking or Laddering**

Often your evaluation will indicate an issue or finding, but not provide a complete understanding of what underlies this issue. For example, a problem may be identified but the exact nature or cause of the problem may not be apparent. Perhaps, more dangerously, the initial data may be

misleading generating a misconception of the situation. In these situations, it is useful to gather more information to clarify the situation, or even just provide conformation of your perceptions. This is likely to be done through more qualitative methods, such as focus groups and interviews.

## **RUFDATA (Saunders 2000)**

You might find RUFDATA useful to help you think about your evaluation process. This is an acronym based on accessible headings and trigger questions that define an evaluation process: Reasons and purposes; Uses; Foci; Data; Audience; Timing and Agency.

## **Tools and Instruments**

Many tools and instruments are available or could be developed. We would encourage flexibility and creativity in your approach. It is important to try to ensure that your evaluation methods are efficient, and are aligned with your learning environment and with the outcomes you are evaluating.

A helpful resource describing tools and instruments of evaluation is Harvey's (1998) *Evaluation Cookbook*, which is available in print and on-line:

<http://www.icbl.hw.ac.uk/ltidi/ltidi-pub.htm>

An additional resource is the draft Student EBL Survey (Moore 2006), which can be downloaded from:

[http://www.manchester.ac.uk/ceeb/evaluation\\_survey.rtf](http://www.manchester.ac.uk/ceeb/evaluation_survey.rtf)

This was developed by CEEBL's external educational consultant from a workshop of CEEBL's 2005-6 small project holders on evaluation. It is currently under development and an improved version will be released presently. This is available online from the CEEBL website. This can be adopted or adapted, in whole or part, or provide a model or inspiration as part of your own evaluation, or ignored, as desired.

## ***Concluding Words of Advice***

### **Plan and Integrate**

Plan and integrate evaluation into the activity, right from the start. Make it a natural part of the process. Having said this, however, it is never too late to capture some fresh or unexpected data.

### **Evaluate Throughout**

Capture evaluation information throughout the process. This may provide you with information that you can act on immediately, to improve the experience of the current learners. A long terminal questionnaire may (understandably!) attract a low response, and anyway can only inform the next iteration of the activity.

## **Provide Feedback**

It is helpful provide feedback to those participating in the evaluation, to show that you are taking their input seriously and that it will make a difference to activity. This will help the participants engage in the evaluation process and understand its value.

## **Analyse and Act**

Make expedient and timely use of your evaluation evidence. You may have generated more information than you can initially analyse. Draw an impressionistic analysis that you can act on now and refine later.

## **Disseminate**

Evaluation is closely aligned with research: rigorous and rich evaluation, informed by scholarship, is a valid form of research that can be disseminated. Lessons you learn can be shared with other practitioners, and can contribute to the scholarship of teaching and learning.

## **And Finally ...**

Remember that everything is not expected to be perfect first time. Nor indeed the second or the third. But things should improve.

The only failed project is one from which nothing has been learnt.

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