JISC e-Learning Models Desk Study

Stage 2: Assessing the relevance of the review of e-learning theories, frameworks and models and the mapping table to evaluators

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Introduction

The purpose of this brief review is to examine the review of e-learning theories, frameworks and models (see Stage 2 Learning Models (Version 1)) and the developing Mapping Table (see Stage 2 Mapping (Version 1)) of the JISC-funded E-Learning Models Desk Study, to explore their relevance to evaluators. To achieve this, it is first necessary to clarify what it meant by 'evaluation' and who might be deemed to be an 'evaluator'.

Background: scoping the involvement of evaluators

Defining evaluation is a complicated and controversial process. There is no clear agreement on what 'counts' as evaluation. Broadly defined (e.g. Oliver, 2000), it is the process by which people make value judgements about things; more specifically, it may be interpreted in an educational context as:

- Judgements about the educational value of innovations, or the pragmatics of introducing novel teaching techniques and resources.
- Judgements about the costs of such innovations. (Judgements about 'worth', as opposed to 'value', in the terminology of Guba & Lincoln, 1981.)
- Quality-related processes such as audit or monitoring.
- Non-judgemental, descriptive processes that explore a topic or practice (and thus develop our understanding).

Importantly, evaluation in this context is *not* taken to mean judging students – i.e. it is not assumed to refer to student assessment.

It is apparent even from this initial list that people will approach evaluation in distinct ways.

- Inspectors, for example, might be more concerned with audit.
- Managers might be concerned with day-to-day monitoring.
- Funders might wish to see some evidence of cost-benefit, even if only at a simple level.
- Teachers might be more concerned judge the educational value.
- Researchers might seek to describe some new form of practice, but could equally be interested in judging the success of new intervention, *etc*.
- Software developers might be interested in formative judgements about the impact of some technology or resource.
- Policy developers might be interested in judgements about the value of new forms of practice.

Each will have their own priorities, will engage in their own distinct practices and will find some forms of evidence more persuasive than others. In addition, each will attribute a different level of importance to the process of evaluation (Harvey *et al*, 2002).

Importantly, however, evaluation researchers such as Patton (1997) remind us that these 'types' are only stereotypes. What should really be considered is what an individual evaluator is trying to achieve within a specific situation, rather than relying on preconceptions and stereotypes.

Naturally, for a general review such as this, such attention to detail is impossible – this is not reviewing how specific evaluators can use the tools produced by the project, but considering their utility in general. As a consequence this review is only able to talk in general terms about likely use, based on preconceptions. Its conclusions should be considered in light of this limitation.

Do the report and table provide what evaluators need?

Although judgements can be formed spontaneously and informally, it has been suggested that formal evaluations of the kind considered here tend to follow a common planning process (Oliver *et al*, 2002):

1. Identifying the audience for the evaluation.
2. Selecting an evaluation question.

3. Choosing an evaluation methodology
4. Choosing data collection methods.
5. Choosing data analysis methods.
6. Selecting an appropriate format to report the findings.

The outputs from this project will clearly be more relevant to some of these stages than to others; however, each in turn will be considered to see where either of these outputs may be of help.

Identifying the audience

There is little that these general tools can do to advise an evaluator on the audience within a specific context, but the mapping table does provide some support in general terms. The delineation of roles within the teaching process may suggest groups who would benefit from engaging with the outcomes of the evaluation process. For example, within a particular teaching scenario, inspection of the relevant entry on the table might suggest that it would be useful to present evaluation findings to online discussion facilitators as well as to managers.

Selecting the evaluation question

A common problem within evaluations is that those involved find it hard to know what questions to ask (Oliver *et al*, 2002). It is common, for example, to ask overly general questions rather than ones that will help people to act or take decisions (Patton, 1997). Both the report and the table go some way towards helping with this situation.

Once again, the table is useful for suggesting things that might form the focus for enquiry. For example, within a particular teaching scenario it may be that one process (such as studying online materials) or one tool (such as an online test) might become the focus for the study. To this extent, it is helpful in establishing the scope of the study.

The report is yet more useful. The tendency to ask overly general questions often leads to studies that try to explain, for example, whether students learn more. The classification of theories and models as illustrating one of three perspectives helps provide greater conceptual clarity by explaining what is meant by 'learning' – whether this be strengthening associations, making meaning or engaging in acceptable social practice. Such clarity will simplify the process of data collection and analysis by avoiding unnecessary sources of data.

Choosing a methodology

Building on the selection and refinement of a question, the three perspectives will also inform the choice of evaluation methodology. Each has epistemological implications, which will in turn shape the kinds of evaluation that may be appropriate. If learning is understood from a constructivist perspective, for example, it will be necessary to solicit

and interpret people's meanings; a social, discursive methodology such as discourse analysis would therefore be appropriate. If an associative perspective had been chosen, it might be appropriate to combine discussions with observations through a process of Grounded Theorising in order to build a model that is supposed to represent stable patterns within the world.

It should be noted, however, that this phase is often left implicit within evaluation (Oliver *et al*, 2002), particularly when these are not carried out from a research perspective.

Choosing a method of data collection

The discussion of models and methods within the report provides an extremely practical guide for data collection. For example, Mayes and de Freitas (see Stage 2 Learning Models (Version 1)) suggest that:

> The constructivist challenge is to describe what the students can *do* differently as a result of their developing understanding.

This clearly suggests that certain kinds of data – evidence of performative ability – needs to be collected.

They also identify the kinds of evidence most relevant to each of the perspectives on learning:

> *The associative view* emphasises
> - Routines of organised activity
> - Clear goals and feedback
> - Individualised pathways and routines – matched to the individual's prior performance
>
> *The cognitive view* emphasises
> - Interactive environments for construction of understanding
> - TLAs that encourage experimentation and the discovery of broad principles
> - Support for reflection
>
> *The situative view* emphasises
> - Environments of participation in social practices of enquiry and learning
> - Support for development of identities as capable and confident learners
> - Dialogue that facilitates the development of learning relationships

More specifically, they highlight the kinds of areas that particular traditions within each perspective are likely to value. For example, they describe how someone who adopted an activity theoretic perspective would wish to explore the relationship (minimally) between participants, rules and purposes. This provides further structure for any proposed evaluation activity, since data pertaining to each of these areas (and the relationships between them) will need to be attended to.

The mapping table is also useful in several ways. Firstly, consideration of the tools and processes may highlight sources of data (such as logs or tool use, outputs from processes, *etc*.) that might be deemed important in forming a judgment. Consideration of the roles involved may also suggest individuals who could provide additional data about their

experience (for example, through an interview of tutors or a survey of students' opinions).

Secondly, the table itself could be used as a way of collecting data. Its purpose is to support judgements about the likely efficacy of planned teaching; this suggests that a comparable table would need to be completed to form a judgement about existing (rather than intended) practice. In other words, if the table structures judgements about what teachers *ought* to do, it can also be used to structure judgements about what they *have* done. Completion of a row of the table (from various sources of data, if necessary) should then provide sufficient evidence to make judgements on. The table can thus be used as an agenda for evaluation.

Choosing a method of data analysis

At a practical level, the choice of data analysis method depends upon the kinds of data already gathered. However, the fact that some piece of data *can* be analysed in a particular way does not mean that it *should*. For example, analytical statistics can be performed on qualitative data that has been coded in particular ways – but such a test might be entirely inappropriate depending on the method of coding, the process of sampling and so on. Although it is technically possible, it would be meaningless (or, worse, misleading). Consequently, it is important that evaluators adopt a position on how they intend to interpret data and are open about this with their audience (Oliver & Harvey, 2002).

The report is, again, helpful in this respect. Although it does not advocate particular techniques for interpretation, the discussion of perspective once again suggests how particular piece of data ought to be interpreted in relation to fundamental questions such as whether students have learnt things from a course. What it does provide, in its summary of Biggs' theory of constructive alignment, is one way of interpreting whether or not a particular intervention has been educationally 'good' – in terms of its improvement to the alignment of components of the curriculum.

Conclusions

This report has reviewed two of the outputs from the JISC-funded study of e-learning Models to explore their potential utility to evaluators. Several conclusions can be drawn.

Firstly, although this report was primarily concerned with formal evaluation, the use of the mapping table may be of value as part of an informal evaluation process. Simply making things explicit can promote practitioner, leading to judgements and improvements in practice.

Secondly, within each step of the evaluation process, there is the potential for these two resources to provide some input. In some steps (such as identifying stakeholders) this is modest, since the concerns will be primarily local, and thus not amenable to generic support. Within other steps, however, there is potential for two kinds of contribution:

- The use of outputs such as the table as a tool within the evaluation process, for example as a data collection template for observations or a data analysis template from which to draw interpretations from collated data.

- The use of both outputs to focus attention and effort on valuable sources of data. Of particular importance here is the work within the report that identifies the kinds of evidence that might be deemed relevant to support claims about each of the three perspectives on learning.

Drawing out a mapping of approaches and evidence might be one useful way to extend the work already undertaken for this project. Further value could be gained by making the mapping table available in either print form or electronically in a way that provides comments on the 'fit' between entries within cells, so that interpretations about the 'goodness' of observed practice can be drawn.

However, these general conclusions must be interpreted with caution. Even considering evaluators as 'types' does a disservice to the personal, context-dependent needs and interests of individual evaluators. Whilst the ideas suggested here offer a starting point to develop process or tools that might be of use to such individuals, inevitably, to be truly useful they will need to be selected and adapted on the basis of personal priorities. Nonetheless, the repertoire of possible approaches that can be derived from these two outputs represent potentially valuable resources for educational evaluators.

References

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