

The terminology and tools associated with Cost, Value and Quality in Professional Learning

Our BERA Research Commission on “Cost, Value and Quality in Professional Learning” brings together participants with diverse areas of expertise including medical, teaching, research and/or accountancy or economics. The Commission has a two-fold purpose: to interrogate what is known, assumed or not known about the cost, value and quality of medical and teacher education and explore the contribution of inter-professional dialogue to better decision-making. The depth and range of the discussions during the first symposium gives us cause to be optimistic that we have common problems to solve and much to learn from each other. That is not to say that we weren’t at times overwhelmed by the complexity of the issues! Issues and themes raised by participants in the community of inquiry at the end of the first day of the symposium are represented by a map (see appendix) and will serve as a guide for the focus of subsequent working papers and webinars. The need to identify appropriate outcomes to guide decision-making was a dominant theme throughout the day and features as one of the strands on the map. This is a question to which we will be returning as the community of inquiry develops over the coming months and we will begin with one of the immediate and tangible issues to be addressed in terms of identifying outcomes: that is the tools used in cost analyses.

Tools in cost analyses

One strand of the presentations and discussions that emerged was the need to be precise with concepts and terminology in this area; and the need for greater awareness of, and experience of working with, some basic methodological tools that could enhance the fields of medical and teacher education. It was acknowledged that these conversations are more advanced in some other fields, such as health services research where grant applications and publications would routinely include consideration of the costs of an intervention. Therefore this second working paper will focus on “Terminology and Tools”.

We will start by presenting definitions of these three terms, as defined in the literature more broadly, through the Oxford English Dictionary online (<http://www.oxforddictionaries.com/definition/english/>):

- Cost: An amount that has to be paid or spent to buy or obtain something: *‘we are able to cover the cost of the event’*
- Value: The worth of something compared to the price paid or asked for it: *‘at £12.50 the book is good value’*
- Quality: The standard of something as measured against other things of a similar kind; the degree of excellence of something: *‘an improvement in product quality’*

It is important to distinguish between the definition of ‘Value’ as described above and ‘Values’ which the Oxford Dictionary defines as ‘Principles or standards of behaviour; one’s judgement of what is important in life: *‘they internalize their parents’ rules and values’.* Both value and values are critically important in the study of professional learning but the terms have quite distinct meanings and should be applied with clarity and precision.

Turning to the academic literature, Walsh et al. (2013) have noted the lack of clear definitions in relation to cost analyses in the medical education literature, with terms sometimes being used

without explaining what is meant by them, different terms being used interchangeably in a manner that highlighted a lack of precision in their application and sometimes terms being used as rhetorical devices to try to advance an argument. In their article, they define the following terms:

- *“Cost-effectiveness analysis refers to the evaluation of two or more alternative educational approaches or interventions according to their costs and their effects in producing a certain outcome.*
- *Cost-benefit analysis refers to ‘the evaluation of alternatives according to their costs and benefits when each is measured in monetary terms’.*
- *Cost-utility analysis is the examination of two or more alternatives according to their cost and their utility. In this context, utility means the satisfaction among individuals as a result of one or more outcome or the perceived value of the expected outcomes to a particular constituency.*
- *Cost-feasibility analysis involves simply measuring the cost of a proposed intervention in order to decide whether it is feasible” (p962).*

Importantly, Walsh et al. (2013) point out that, because cost-effectiveness analysis involves the comparison of different educational approaches, it is incorrect to say that an intervention is cost-effective ‘in and of itself’ (e.g. “this intervention or this approach to assessment IS cost-effective”). Rather an intervention can only be deemed to be cost effective in comparison to an alternative intervention. Walsh et al. (2013) use worked examples to demonstrate the potential application of each of the methodological tools listed above in the medical education field and highlight the pros and cons of each approach. For those new to the field, this publication is an excellent introduction to relevant terminology and tools.

The application of these tools to the field of professional learning is no easy task, however. The income streams for professional learning are often complicated and the expenditure is equally challenging to identify, incorporating direct and indirect costs, and non-monetary ‘costs’ and benefits that are hard to express in monetary terms. Allen et al.’s (2014) research into different routes into the teaching profession neatly highlights some of the challenges involved in a cost-benefit analysis for example. The concluding paragraph of their executive summary reads: *“These conclusions are limited to the extent that our results incorporate the short-term costs and benefits of training only. Future analysis will consider longer-term costs and benefits, such as varying retention rates, subject to the necessary data becoming available. We are also unable to consider wider costs, such as lower economies of scale in advertising, recruitment and training or the possible shortfall in supply of newly qualified teachers that may result from less centralised (typically university-based) training. We also exclude the net cost/benefit to initial teacher training providers associated with different routes. Future research should also consider the contribution made to the supply and quality of trainees available through alternative routes of initial teacher training” (p3).*

One of the challenges recognised by those attending the first symposium was that the processes involved in professional learning are complex, hard to describe and define, and (inevitably) hard to measure in a way that can adequately capture the essence of what might be happening in the

interaction between educator and learner. It is perhaps heartening to acknowledge that, although professional learning is a highly complex process with multiple components interacting in unpredictable ways, this may be equally true of other fields of enquiry, including health care (Mattick et al. 2013). The presentations and discussions also highlighted the need for decision making to be informed by, but not decided by, information on costs or outcomes. There was broad recognition that a wide range of information must feed into complex decisions and that professional judgment based on the information available (which might be weak, partial or even conflicting) will be required. Therefore, another tool that may have potential for the professional learning field is Multi-Criteria Decision Analysis (MCDA). MCDA “has the potential to consider whatever criteria a decision maker judges relevant and, if done well, can support transparent and consistent decision making” (Marsh et al. 2014 p346). This approach provides “a structured and transparent approach to identify a preferred alternative by clear consideration of the relative importance of the different criteria and the performance of the alternatives on the criteria” (Thokala and Duenas 2012, p1172).

Tools used in cost analyses are new to most educators – regardless of their discipline. The tools are most easily understood when they are used in actual practice – so we have created the following fictional case scenario to help show how to use them.

Case scenario

Imagine that you are a medical educator and are thinking about investing in e-learning. You need to create an e-learning resource to improve prescribing and patient safety. The target audience is newly-qualified doctors.

You have a budget of £50 000 and you know that some resources can be created for less than this. So the project is feasible from a cost perspective. This is a basic *cost-feasibility analysis*.

However a colleague wonders whether face to face instruction would be better than creating an e-learning resource. You decide to do both and then to assess the costs of the e-learning and the face to face instruction and the prescribing outcomes of both forms of instruction. The e-learning achieves the same outcomes but turns out to be lower cost. This is a basic *cost-effectiveness analysis*.

If the outcomes to be achieved were lower prescribing costs then a *cost-benefit analysis* would probably have been appropriate.

Finally if multiple outcomes were to be assessed (for example fewer prescribing errors, more generic prescribing and more efficient drug monitoring) and these outcomes needed to be assigned different weights according to their importance or utility, then a *cost-utility analysis* would be appropriate.

It is important to remember that regardless of what cost analysis tool is used, it should be used only as a guide and should not necessarily take the decision away from the educator. To be explicit, the educator can still choose the most expensive resource if it achieves better outcomes and if those outcomes are of sufficient importance.

As our scenario illustrates, access to the appropriate tools can assist the decision-making process but the exercise of professional judgement is still required. It is important, therefore, to recognise the catalytic potential of a tool to change an activity, by making it faster or more focused for example, but also by re-framing experience and opening up new ways of working. The promotion of tools to support professional activity need not result in the instrumental, mechanistic approach popularly associated with the concept of a 'tool-kit'. Tools can change what we pay attention to in a given situation and stimulate inquiry (Baumfield et al., 2009) as Steve Higgins illustrated with regard to the development of the Sutton Trust/EEF and Learning Toolkit. It is important, therefore, to be literate – as opposed to literal – in their use.

A tool is also a mode of language, for it says something to those that understand it, about the operations of use and their consequences... in the present cultural setting, these objects are so intimately bound up with intentions, occupations and purposes that they have an eloquent voice. (Dewey 1938, 98)

In conclusion, we believe there is significant potential in discussions around cost, value and quality. They do need to be underpinned by conceptual clarity in the use of terminology, however, and the aim of this second working paper has been to define and illustrate some key terminology and tools.

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