

Kolb suggests that learning from experience results from going round a four-stage cycle, starting with experience, and then reflecting on that experience, then developing theories, models or explanations for what happened, and then planning some future action which will implement or test the theory, model or explanation.

There are many accounts and many variations – if you put ‘learning cycles’ into Google Images, you will see what I mean. Graham Gibbs offers a six-stage model. This begins with a description of what happened, then an examination of your feelings in response to what happened, followed by an evaluation and then analysis of what happened, before exploring what you might have done differently, and finally, action planning, in which you consider what you will do if faced with that situation again.

As a change from cycles, Phil Race offers a ‘ripples on a pond’ model, which offers four processes which interact with one another. At the centre of this model is the wish or need to learn, then there is the doing of the thing you wish to learn. Doing alone isn’t enough, and Race’s model shows that we have to digest what we learn, which is to say, we need to think about what we have been doing and reflect upon what worked and what didn’t. And we also need feedback on our performance.

There are other useful variants, and still more waiting to be developed.

But the core idea of learning as a cycle (or, better, a spiral – see Bruner below) of purposeful activities, crucially involving reflection and feedback and then responses thereto, rather than learning as the imitation of a sponge, has enormous power and value.

The concept of a cycle provides a model of learning from experience, rather than just of learning through being taught. Being taught is only one of a vast number of possible experiences. Kolb shows us how learning may be extracted from experience. But Dewey (1938) usefully reminds us that ‘The belief that ... genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.’

Original, early and/or major source:

Kolb, D. *Experiential learning*. (Upper Saddle River, NJ: Pearson Education, 1983).

Useful summary/introduction:

<http://skillsforlearning.leedsbeckett.ac.uk/preview/content/models/02.shtml>

Bruner adds to Kolb’s cyclical account the idea of progression, of upward movement, of experiencing and making sense of experience at successively more sophisticated levels, rather than going round in cycles, or becoming a larger and fuller sponge. Each turn round the spiral of action and reflection brings in more information, more ideas, more experience, and hence more learning.

Original, early and/or major source:

Bruner, J. *The process of education*. (Massachusetts: Harvard University Press, 2003).

Useful summary/introduction:

Johnston, H. ‘The spiral curriculum’, Education Partnerships, Inc. (2012)

<http://files.eric.ed.gov/fulltext/ED538282.pdf> accessed 02 February 2018.

I suspect that learning happens faster with repeated turns round the cycle or spiral rather than with spending huge amounts of time and each stage. But I cannot back up this view. Reflection sometimes gets over-elaborated, even mystified, in the literature. But the heart of reflection is simple: it requires asking and answering questions, including 'What happened?', 'What did I do?', 'What happened as a result?', 'Did I achieve what I wanted to achieve?', and in each case, you need to be asking, 'Why?'. In addition, of course, you need to be asking, 'What do I learn from this?' and 'What implications do I draw?' The questions are simple, but very powerful, as we discover when we start to answer them. Both reflection and reflective practice are learnable and teachable. Moon (2009) gives a thorough account.

Original, early and/or major sources:

Schön, D.A. *The reflective practitioner*. (Aldershot: Avebury/Arena, 1995) New edition.

Cowan, R, (1)2.3t (R(8Cuy)3 (/)1 (iv)3 (e)4)-1O TwD0tsAlraAlt7on un1 (it)1.4vnale (e)-1h1.4. (A(ti57)-1 (de)3

Constructivism is a powerful and a problematic concept. Obviously it doesn't mean that every learner has to invent from scratch everything that they are to know. That would take too long, and would place unreasonable intellectual demands on most of us.

But – for example – you could teach the legal concept of 'tort' in (at least) two ways.

You could say 'This is what 'tort' means ...'

Or you could lead a discussion of right and wrong, encourage students to make the distinction between civil and criminal wrong and get them to focus on the victim and their rights and needs rather than on the offender. In this way, in a few minutes, you can help them to invent the concept of 'tort'. Finally you could give it a name.

Would the second method take longer than the first? Yes, but only by a few minutes. Would students 'get' the idea of tort more effectively, more deeply, and more sustainedly by the second method? Probably yes, especially if they went on immediately to use the concept. Tort would be a living concept, whose origins and meanings and the need for which they could explain, rather than just another definition to be learned. Students, in this case students of law, have to be much more than dictionaries.

Useful summary/introduction:

'Constructivism (philosophy of education)' En.wikipedia.org (updated 01 February 2018) [https://en.wikipedia.org/wiki/Constructivism_\(philosophy_of_education\)](https://en.wikipedia.org/wiki/Constructivism_(philosophy_of_education)) accessed 02 February 2018.

This offers a taxonomy, a classification, of intellectual activity, showing an explicit progression. The current version starts at the lowest level with remembering, and progresses to understanding, applying, analysing, evaluating and finally creating. It is a valuable tool for analysing learning outcomes and assessment tasks. It is particularly valuable in encouraging us to raise our sights in education, to aim for higher-level capabilities. It is useful to analyse learning outcomes for courses against the Bloom taxonomy, and then relate this analysis to QAA level descriptors.

But Bloom's taxonomy also has limitations as a tool for analysis. It can badly mislead us around assessment and is often misused to disastrous effect in course design through the near-fatal belief, promulgated by Bloom, that learning must necessarily start at the lowest level, which is remembering. Kolb, Schön et al. persuasively suggest the learning can start anywhere. You can explore these issues further in two of my blog posts:

- Baume, D. 'Learning and knowledge – Bloomin' obvious?' (created 28 September, 2015) <https://davidbaume.com/2015/09/28/learning-and-knowledge-bloomin-obvious/> accessed 02 February, 2018.
- Baume, D. 'Bloom and course design – disaster strikes!' (created 06 October, 2015) <https://davidbaume.com/2015/10/06/bloom-and-course-design-disaster-strikes/> accessed 02 February, 2018.

Original, early and/or major source:

Bloom, B., D. Krathwohl, and B. Masia *Taxonomy of educational objectives*. (New York: David McKay, 1974).

Useful summary/introduction:

Clark, D.R. 'Bloom's taxonomy of learning domains' The performance juxtaposition site (updated 12 January 2015) <http://www.nwlink.com/~donclark/hrd/bloom.html> accessed 02 February 2018.

Rather than looking at the nature of the intellectual task, as Bloom does, Biggs looks at two dimensions of a task: the complexity of it, in terms of the number of different elements in play, and then the number and complexity of the interrelationships between these different elements. It is thus capable of being applied to any subject matter.

SOLO is a valuable tool for analysing assessment tasks and learning activities – one would expect both the number of elements in a task and the number and complexity of the relationships between these elements to increase as we move up the academic scale. SOLO can be used together with Bloom to good effect, although with the caveats about Bloom expressed above.

Original, early and/or major source:

Biggs, J.B. and K.F. Collis *Evaluating the quality of learning: the SOLO taxonomy*. (Saint Louis: Elsevier Science, 2014).

Useful summaries/introductions:

Biggs, J.B. 'SOLO taxonomy' <http://www.johnbiggs.com.au/academic/solo-taxonomy/> accessed 02 February 2018.

Clark, D.R. 'Alternative to Bloom: structure of observed learning outcome (SOLO) taxonomy' The performance juxtaposition site (updated 12 January 1999)

http://www.nwlink.com/~donclark/hrd/Bloom/SOLO_taxonomy.html accessed 02 February 2018.

'... responses that produce a satisfying effect in a particular situation become more likely to occur again in that situation, and responses that produce a discomforting effect become less likely to occur again in that situation.' Thorndike (1898)

The original research was done on cats, but it seems to hold well for people, too.

The main 'satisfying effect' of something done by a student may initially be a positive response from a teacher or peer. The more we can help a student to judge, and thereby take appropriate satisfaction in, their own work, the more the student becomes self-reliant, and the better able to generate their own 'satisfying effects'.

Original, Early and / or Major Source:

Thorndike, E. 'Animal intelligence: an experimental study of the associative processes in animals', *Psychological Review*, 5(5) 1898, pp.551–53.

Useful summary/introduction:

McLeod, S.A. 'Edward Thorndike', simplypsychology.org (2007)

<https://www.simplypsychology.org/edward-thorndike.html> accessed 02 February 2018.

Perry studied how students' understanding of knowledge and learning change as they progress through (US) college. The original version has nine levels, which fall into three main stages, each with subsections.

The first of the three stages I characterised by an unquestioned view of truth as 'absolute truth', a worldview in which things are unproblematically either true or not true.

In the next stage, we see an increased level of complexity, which Perry describes as 'multiplicity –

Weibell, C. 'Freedom to Learn (Rogers – 1969)',