

Competence and skill in learning as praxis

Patrick Ainley

The Gifford Lectures given at the University of Aberdeen in 1951-2 by the Hungarian philosopher of science, Michael Polanyi, were the basis for his 1958 book *Personal Knowledge*. They were compacted into the shorter and more accessible *The Tacit Dimension* in 1966 (both published and republished by Chicago University Press).

Polanyi's notion of 'tacit knowledge' influenced Mike Cooley, who was apprenticed as an engineer in Ireland but became Professor of Engineering at Bremen University via his presidency of the Designers' Union and founding member of the Lucas Aerospace Combine Shop Stewards' Committee and one of the authors of its Plan for Socially Useful Production. This suggested useful things for the skilled workforce that created the Concorde aircraft to produce, and the Plan is still an inspiration for the human-centred production that will be required for a Real Green New Deal.

These two experts or Masters both espoused an apprenticeship or *bildung* model of learning aimed at developing professional and craft expertise. In Polanyi's case this is sustained and validated by the professional and academic community of science, and in Cooley's by the community of craft workers organised in trades unions. The development of both these forms of expert learning has been continuously undermined by the reduction of skill and knowledge to the level of behavioural competence.

Especially in the UK since 1979, this undermining was accelerated with the application of new technology to break down trades union resistance in 'demarcation disputes' and in training for employment in 'technical' and further education. Beginning in the US army, this behaviouralist approach was next applied to proletarianise professional labour in teacher training and then throughout higher education. This coincided with and contributed to reformation of the post-war class pyramid with the erosion of the traditional industrial division of labour between manual workers ('skilled'

and 'unskilled') and the non-manual professional and administrative 'middle class'.

The class structure has since gone pear-shaped but preserved its familiar tripartite form, as class polarisation between top and bottom has created a new and individualised middle-working class between a new globalised finance capitalist class and their dwindling managerial hangers-on above and a growing precariously employed and worthlessly certified resurrected 'rough', so-called 'underclass' beneath. These latter are only occasionally recognised, eg during the pandemic, as the 'keyworkers' upon whom society depends but which working-middle class youth desperately run up a down-escalator of devalued qualifications to avoid falling into.

Both in higher professional education and in further trade training, competence-based training aims at substituting human labour with that of machines. Hence the title of Cooley's 1987 book *Architect or Bee?* (from Marx in *Capital*):

a bee puts to shame many an architect in the construction of its cells; but what distinguishes the worst of architects from the best of bees is . . . that architects will construct in their imaginations that which they will ultimately erect in reality. [So that] at the end of every labour process, we get that which existed in the consciousness of the labourer at its commencement.)

The human imagination inherent in the use of tools, including language, which mediate consciousness in the focus of its attention, is thus preserved. (See Engels's *The Part Played by Labour in the Transition from Ape to Man*. Also William Thompson, described by James Connolly not only as 'the first Irish socialist' but as 'a forerunner of Marx', who originated the term 'general intellect' (GI), along with 'surplus value'.)

Under capitalist intensification of labour with the growth of machines, there is a counter-movement

towards expert knowledge and skill, as machinery becomes more complex - at least amongst a minority of technicians before their roles in design and maintenance are also automated away. This affects too remaining production workers and the consumers of their new and more complex products. In these circumstances learning at all levels develops GI throughout society and culture, and so can be subsumed under a theory of *praxis*, as groups and individuals struggle to change themselves and their circumstances, which include formal instruction or schooling.

Such a view of learning from practice obviates the chimera of transparency in defining competent or skilful performance for formal assessment in education since, as Polanyi's idea of tacit knowledge indicates, this is inarticulable (and 'the inarticulate', as he neatly says, 'always has the last word'). A good example of this is an AI pianist which can replicate the performance of technically competent players but lacks the 'touch' a *maestra/o* develops from their knowledge and practice of the work so as to integrate their technical abilities into a higher level of skills that is more than the sum of its parts. This will be recognised not only by other musicians and musical academies etc but also by connoisseurs/critics and audiences. Similarly, surgeons or pilots, who must be certified competent by their professional peers in order to be considered safe to practise, integrate their knowledge with all the information they have acquired through many operations and hours of flying etc. A Master's student is also examined to show understanding of their area of study before going on to produce their thesis; just as journeymen once toured medieval Europe to learn from the work of acknowledged masters of their craft so as to produce the Masterwork on which they would be accepted as a member of the Guild.

New works and discoveries also have to win acceptance in the same way - Mike Cooley gives the example of Jackson Pollock, who was not sure himself whether his drip paintings were art or chance. (This estimation and that of their place in the canon may vary and therefore have to win acceptance over time and in different social and cultural milieus. I had a student once researching football fans' appreciation of skilful play, comparing it with that of coaches and other players etc. These all varied quite widely and not always in relation to the players' success on the field.)

Thus competence can be recognised as a necessary component of skill but not a sufficient one. Hence in some activities such as rock-climbing, there are some things that just have to be done, ie, you tie-on first, although this is not in itself very complicated. Military drill is another example - soldiers have to be drilled into executing orders without hesitation, and

motivation plays a large part in making them want to do this. Normally though, competence is negatively motivated by the necessity to complete the tasks of routine employment. However, there are always various 'tricks of the trade' or 'knacks' that can be acquired even in activities considered 'unskilled', eg mopping a floor more or less effectively. Some activities also have to be acquired and undertaken in order, eg you can't multiply until you can add, so that learning your times tables may be a necessary first step if you don't have a calculator. Therefore, training is necessary for education, and education without training is impossible. However, thanks to the misapplication of quantifiable competences specified as 'tasks' or 'targets' measured by inspection regimes to make market comparisons, and also internationally in PISA tests etc, training without education is widespread!

In today's massified society of individuals, where traditional divisions of labour and culture have broken down as new ones are forming, it can sometimes seem that social media determine consciousness, but of course social being determines how messages are received and sent. So, even as individuals are rendered increasingly fungible both as consumers and producers, their similar situations elicit similar reactions to more or less manipulated mass media messaging in what are often fluid and fissiparous contestations. Who exercises hegemony over more or less permanent blocs of opinion for electoral or other purposes is a result of struggle over, within and between groups transformed by collective action against reductive relations of production to new technology. Amongst professional employees these may stimulate what Lethbridge calls *Democratic Professionalism* in relation to their clients/customers and the wider public. Amongst those who are acknowledged or win recognition as keyworkers, new relations to new technology and to each other can also transform their relations with each other, as the current strike actions show.

The view of competence and skill outlined in this article in relation to corresponding terms information and knowledge as expressions of a general intellect honed in practice has most direct relevance for learning at tertiary level. Here 'higher' education at universities must recover itself in connection with what is called 'further education' in the UK/ 'technical education' on the European mainland. It can then offer comprehensive state school graduates a universal entitlement to free lifelong adult and community Tertiary Education and training in or out of employment, full- or part-time, and including both creation and recreation. Signified by a school-leaving diploma, this

entitlement should be part of the assumption of democratic citizenship at the age of majority.

This requires as great a transformation of primary and secondary schools as is demanded of tertiary colleges and universities. Indeed, there is little point in advocating change to the latter without corresponding change to the former - as for instance the Council for the Defence of British Universities (CDBU) does in their 2022 report on *The Role of Universities in Building the Society and Economy of the Future*. So, as CDBU do not recognise, the academic National Curriculum with its associated tests and examinations must be reformed, beginning with a return to the partial reform of A-levels attempted in Curriculum 2000. Such broadening of A-levels would begin to dismantle the academic assessment that ostensibly presents 'equal opportunities' to all but actually, in the social sorting machine that schools have become, marks down the majority whilst selecting a minority based on their previous more or less expensively acquired cultural capital. This selectivity of schools will be entrenched by allocation to A- or T-levels streams from 14+.

Many school teachers strive to educate their students beyond the training to the tests upon the outcomes of which they are also managed. Following their strike ballots and supported by their students, they may for the first time join their colleagues on strike in F&HE. This would provide opportunities to begin collective curricular and institutional reform across all levels of state education as Sol Gamsu suggested in *Red Pepper* 27/10/22 (<https://www.redpepper.org.uk/time-to-shut-down-the-education-factory/>) and by Gawain Little, Ellie Sharp, Howard Stevenson and David Wilson in their new book *Lessons in Organising, What Trade Unionists Can Learn from the War on Teachers* (forthcoming from Pluto).

**POST-16
EDUCATOR**

Post-16 Educator:

annual subscription rates (4 issues)

1. Individuals:

- 1.1 Unwaged - £3.00
- 1.2 Students / Part time teachers/lecturers / Retired - £6.50
- 1.3 First time subscription as full time teacher/lecturer - £9.50
- 1.4 Regular individual - £12.50
- 1.5 Supporting - £30.00

(All the above please use form below, personal cheque or bankers order only. Or for alternative payment methods such as Internet Bank Transfer, please see <http://post16educator.org.uk>.)

2. Institutions (eg libraries, union branches):

- 2.1 New subscriptions - £18.50
 - 2.2 Regular institutional - £25.00
- (Official orders to address below.)

To: *Post-16 Educator*, 39 Scarle Road,
WEMBLEY HA0 4SR (Phone 0208 903 4940)

Name: -----

Address:-----

I wish to subscribe and enclose cheque payable to 'Post-16 Educator' for 1.1 £3.00 1.2 £6.50 1.3 £9.50 1.4 £12.50 1.5 £30.00 (Tick as appropriate)

Bankers Order:

To (name of your bank): -----

Address of your bank: -----

Your account number: -----

Your bank sort code: -----

Signature:-----

Please pay *Post-16 Educator* the sum of :
every year, starting on (date):