

Lifelong Learning and Outreach in the Non-Vocational Domain: learning from the case of science.

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Abstract

This paper is a preliminary study of the wider benefits of the kinds of lifelong learning which aim at personal, cultural and scientific development. Specifically, it focuses on provision using ICT-mediated modes of communication to achieve regional and global outreach, entailing the emergence of “virtual” learning communities which are not geographically limited.

Among disciplines, the natural sciences present us with some particularly interesting questions because of significant recent policy developments at national level (personified in the UK by Lord Jenkin) and at European level (associated, for example, with Commissioner Busquin). Traditional forms of engagement between science and society are being questioned, with implications which are profoundly challenging to educators responsible for the promotion of lifelong learning. Is it helpful to apply a Wengerian analysis based on learning as engagement in social practice? Is science special? Could the case of science and society eventually serve as a template for how other academic communities should engage with society?

This work is based in part on the results of an EU SOCRATES project on general and cultural adult education (GECULT, 1998-2000) supplemented by the experience of more recent efforts to support new forms of outreach and lifelong learning at the University of Southampton.

1 Introduction

The examination of “wider benefits”, which is the theme of this conference, begs the question of what, exactly, is supposed to be the *central* purpose of adult learning. Two comments ought to be made about this right away.

First of all, for most people, the primary purposes of adult learning are vocational or professional. In fact, many educators are so used to this idea that they find it rather strange to suppose that other purposes exist at all. There may be different views about whether the primary beneficiary of vocational learning is supposed to be the employee or the employer, or perhaps the national economy in general, but there is little doubt about the broad aim.

Secondly, in many contexts, the immediate purpose of adult learning is gaining access to mainstream higher education. In other words, the provision of (mainly part-time) lifelong learning has, as its objective, widening participation in (mainly full-time) first-degree programmes.

These two comments would be trite if the issues were not very topical, at least in Britain. British government policy at present supports lifelong learning, but only of a vocational kind. The dominant educational philosophy is utilitarian, with national economic well-being and full employment as its goal. This Baconian stance is of course not new, but today it is receiving unusual emphasis and little account is taken of any other personal or cultural or spiritual goals which learners might have. This is not to say that the current official philosophy lacks idealism, but its idealism tends to be channelled in the particular direction mentioned in the previous paragraph, namely widening participation. The ideal, then, is to broaden access so that university degree programmes are opened up to a wider social, economic and ethnic mix of students, including older people who were unable to benefit from higher education when they were younger because of social and financial inequalities which existed in the past. (Department for Education and Employment 2000.)

The ideal of widening participation is admirable, but it carries the danger that lifelong learning for part-time students loses its distinctive mission and is redefined as simply a portal into more conventional forms of higher education. This brings us face to face with the issue of “integration” which has been problematic within the author’s own institution: should full-time and part-time programmes be completely integrated, in the context of a unified modular system? Should the curriculum offered to (generally older) part-time students be the same as what is offered to (generally younger) full-timers? There are powerful forces now answering “yes” to both questions, but professional educators of adults tend to support the opposite view.

2. Non-Vocational Lifelong Learning

Non-vocational, or “liberal”, lifelong learning has long had an honoured place in the British university system, although during the last decade there has been a decline – and in some universities a total eclipse – because of shifting government support in favour of the other forms of lifelong learning mentioned in the section above. (Wallis 1996; Richardson 1999.)

The purposes and benefits of non-vocational adult learning are enormously varied. Academic and cultural courses, on topics from archaeology to Zen, offer personal development and

stimulation and – when a broad and unbiased choice of subjects is offered – provide an important dimension of freedom in people’s intellectual lives. Skill-based learning (such as learning to converse in German, or to counsel the bereaved, or to design websites) may have different purposes for different students, serving a host of purposes to support people in their personal or community roles.

There may also be significant vocational and professional benefits, even when a course is not planned to meet any specific employment need. Indeed, it is hard to think of insights and skills which are valuable to people in their personal lives but are not also likely to be of some use to them in the world of work. In fact, the EU’s Socrates-supported GECULT project went some way in exploring the idea of dissolving the division between vocational and non-vocational learning. (Bisovsky 1999.) In other words, the wider benefits of *non-vocational* learning may include vocationally-useful spin-offs, and conversely the wider benefits of *vocational* learning may include culturally and socially valuable spin-offs.

In the next two sections, we will look at non-vocational learning in a particular subject area, namely science. We refer here not to technical courses on applied science or engineering, but to public adult education on “pure” science and on its the social, ethical, philosophical and other implications.

3. Five Benefits of the Public Understanding of Science

As recently as 1987, but in what seems now like a different era, Laetsch (1987) wrote a landmark paper surveying the alleged benefits of public education about science. He drew attention to five different claims that can be made in support of it, namely that

- (a) an informed electorate is essential for effective democracy;
- (b) there will be economic benefits for the nation because science is the basis of efficient industry;
- (c) superstition and irrationality will be prevented;
- (d) people’s behaviour will improve if they understand the consequences of what they do (such as damaging their health by smoking or damaging the environment by driving unnecessarily); and
- (e) it will promote a more ethical worldview, because scientists are dedicated to truth and have an ethic of honesty and accountability.

Laetsch was profoundly sceptical about all of these possible benefits. He was doubtful about whether scientific literacy really generates economic returns, and he thought it was a vain hope that it might dispel superstition. On point (d), he wrote that “claims for behaviour alteration are constantly made in support of the need to communicate science” but that “the uses of water, energy resources and land provide myriad examples of the failure of knowledge to determine behaviour”. Laetsch also thought it fallacious to suppose that a knowledge of science will improve people’s ethics as if scientists’ high ideals would percolate to the public if only people understood them.

Notice that the five justifications or benefits listed by Laetsch are all based on a unidirectional top-down model of education. It was imagined that the public should learn about science, but there was no suggestion that scientists might simultaneously learn from the public. More recent thinking, by contrast, allows for a bidirectional, mutually beneficial influence between the public and the academic scientific community. At the same time, it has become conventional, and no longer an irreverent heresy, to be profoundly sceptical about the cultural and ethical importance of science. Today, it would no longer be universally agreed that the special epistemological status of science makes it obviously beneficial for as many people as possible to gain an understanding of scientific ideas and modes of thought. (Counihan 2000c.)

4 The Jenkin Report

Today, as far as science is concerned, the debate about the benefits of adult learning has shifted decisively beyond what Laetsch considered in 1987. In Britain, the Jenkin (2000) report on *Science and Society* has moved away from the old “deficit model” of the public understanding of science - the model based on the belief that most people are lacking in their knowledge of science, and that their deficiency needs to be remedied by giving them some sort of educational experience under the direction of scientists. Instead, the view is now taken that there ought to be a more symmetrical relationship between science and society, with an equality of esteem and a reciprocal willingness to learn. The emphasis is dialogue rather than pedagogy. The public, it is felt, should not just be spectators (no matter how well-informed) but participants in the process by which science is shaped.

This is radical stuff. The traditional form of engagement between science and society is being questioned, and the value of formal courses of adult education about science is being challenged. In fact, taken to their logical conclusion, Jenkin’s *Science and Society* proposals amount to a manifesto for the reform of the scientific community itself, towards a new kind of more open and participative learning community – a community which should continue to value the findings and insights of leading-edge specialists but will also engage with society in a meaningful and inclusive way.

But these developments are not relevant only to science. As many readers of this paper will realise, Jenkin caught a mood which has for some time has been fashionable among progressive circles in adult education. Participative and collaborative learning, and reflection arising from the learner’s own personal context, are familiar notions in the adult education literature. Etienne Wenger’s book on *Communities of Practice*, for example, has recently drawn a good deal of attention to this kind of vision. (Wenger 1998; Jansen 1999.)

It is worth emphasising that this entails a shift from formal towards non-formal learning, but not perhaps a familiar kind of non-formal learning. Interestingly, Brennan (1997) has recently proposed a reconceptualization of non-formal education, distinguishing three strands of provision which he calls “complementary”, “alternative” and “supplementary”; but here we are envisaging what in his terms would amount to a fourth “participative” strand of non-formal learning.

But there are some dangers in this. In the debate surrounding the Jenkin proposals – and, beyond that, proposals about connecting science and society at European level – there is a

disturbing imprecision about exactly what is supposed to be the outcome of the dialogue. One possible objective is the radical one of transforming the nature of the scientific community and thereby affect the future shape of scientific ideas themselves – if that is possible! A different objective is to shape the ethics of the scientific community, or to influence legislation about what scientists should be allowed to do. Yet another objective is to influence government policy on financial priorities in the support of science.

So, what exactly are we trying to do? To widen participation in the scientific community itself? To widen influence on the ethics of science? Both of these possibilities raise deep and controversial philosophical issues, besides the practical difficulties. Or is it simply to assist in the formation of government science policy, making it more authentically democratic, echoing Lautsch's motive (a) above?

Nobody could object to promoting participative learning as an element of effective citizenship in a democratic society, but many scientists will be very uncomfortable at the thought that politically-neutral formal adult education in science should be replaced with politicized non-formal activities.

To end this section, it is worth quoting a remark drawn from the American side of the debate and which touches on many of the issues mentioned above. Reviewing a book on *Updating the Social Contract for Science*, Dick Sclove wrote that “whereas Guston and Keniston insist that science is uniquely dedicated to truth, others might counter that a reinvigorated democracy – including a more open and culturally pluralistic organization of science – harbors the greatest promise of establishing truth and impartiality born of the full representation of competing viewpoints in social deliberations that are as open and egalitarian as possible. Some social scholars of science hypothesize that indeed a more democratic science would also advance the pace and breadth of scientific understanding, technical invention, and economic innovation”. (Sclove 1995.)

5. Internet-Based Outreach

It has been pointed out above how, in relation to science, there is a shift towards adult learning of a more participative nature. The new emphasis is on dialogue rather than teaching. Formal adult education, and accredited courses, are perhaps giving way to collaborative learning of a non-formal kind. Indeed, not only in the subject area of science but more widely, adult education has benefited from insights such as Wenger's idea of “communities of practice”.

The purpose of this section is simply to say that the revolution in information and communications technology has been decisively reinforcing this trend by turning the internet into a key medium for adult learning. After a slow and uncertain start, the internet now seems set fair to be the basic environment within which the necessary interactivity will be sustained. The pace of development is so great that the pioneering initiatives of only two or three years ago (including initiatives led by the writer) already seem passé. Globalised participative learning communities have not only been made possible, but they are already springing up all around us, often without the help of universities or other traditional educational institutions. (Counihan 2000b.)

But besides the development of non-formal lifelong learning in the non-vocational domain, the new technology is also being applied powerfully to vocational and professional adult learning, including formal courses accredited by leading universities. It would be wrong to imagine that traditional educational structures are being swept aside because of the internet. They are being sidestepped by many people, but the universities are seeking to exploit the new technology to deliver courses of an otherwise conventional kind through the new media. In the British context, there is an interesting tension between at least three possible lines of development for internet-based higher education. One is the national approach, promoted by the Higher Education Funding Council for England, to develop an “e-University” which will compete on Britain’s behalf in the global marketplace for high-value lifelong learning. Another is the European approach, evident in the EU’s current round of bidding for support for virtual universities which will, it is hoped, transcend the barriers of different European languages and academic traditions. Yet another is the anglophone approach, trying to form alliances of British, North American and Australian universities to capitalise on the global demand for English-language higher education.

6. Conclusions

It is important to have a clear view of the purposes and benefits of part-time adult learning. Efforts to integrate part-time adult education with mainstream full-time higher education have not had encouraging results. Also, it is important not to confuse the purposes of vocational and non-vocational learning, in spite of the synergies which can sometimes occur between them. Non-vocational adult education has a distinctive ethos which can be obscured if there is an overemphasis on the economic and commercial purposes of vocational education. (Counihan 2000a.)

The example of science is instructive because for many years there has been a debate about the purposes and benefits of education for the public understanding of science. The debate is ongoing, and in some ways is still as puzzling as ever; but the practical trend in this area is clearly towards participative and non-formal education, leading to the emergence of new kinds of learning communities. And the general theory of adult education suggests that what is valid for science will also be valid in other subject areas.

This trend is now being strongly sustained by the technology of the internet, facilitating global outreach. And globalisation is important for at least two reasons: it makes possible viable learning communities in small subject areas which might only involve a handful of people from any one country, and it helps to overcome the nationalistic or governmental spin which may otherwise subvert dialogue. And yet these developments are full of paradox: for example, if an online dialogue is being used to decide a nation’s future science funding priorities, should the dialogue be restricted to that nation’s electorate? When does participative learning become participative politics, and do different rules then apply?

On the question of the wider benefits of adult learning, it is perhaps best to conclude that adult learning should be about outreach, empowerment, and remaking the structures and boundaries of knowledge. It is all about access to truth. “And the truth shall make you free.” (John 8:32.)

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