Revisiting 'Technical' Education

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In a relatively recent publication Waterhouse (7, 2002) re-focuses our attention on technical education. He suggests that "A fundamental part of education, wherever it occurs, is technical. Technical education is not simply practical, it is about particular types of action to make and manipulate physical things. Technical learning begins at birth. Technical education as a specific social institution began when techniques had reached a certain level of complication and sophistication." This gave birth in Europe to the apprenticeship system, with its overlay of secret knowledge and mystique. In spite of the printing press, the computer, and communications technology, the restrictive practices of these medieval guilds are still with us – known today as professional bodies or associations such as the General Medical Council, the Law Society or the Institute of Civil Engineering. This concept of technical education as a social institution has often been distinguished from vocationalism; "a vocation is a calling, and the highest vocation, certainly in Europe, is to the priesthood and the European universities were invented to deliver vocational education in the strictest of senses. They were set up by the Church to train clerks, i.e. clerics. Indeed, all the great civilizations of the old world had similar institutions with an identical purpose" (Waterhouse, 7, 2002). These origins are still evident today in the oldest universities. They were essentially the technical colleges of their day.

The classic model of the late medieval university was the Sorbonne in Paris. Like other European universities the Sorbonne had four faculties. The lower faculty, the Faculty of Arts, generally trained young men in the skills of the clerk (church employee) and the three higher faculties were those of theology, medicine and laws. The whole purpose was vocational, with the degree as a licence to practice and the doctorate as a licence to teach. However, much of this seems to have been forgotten. Medicine, laws and theology as subjects worthy of study were the equivalent of the creative industries today.

As Waterhouse (7, 2002) points out, "universities in the early modern period were in no sense technical. They were about language, social interaction, beliefs and ideologies. They were not about making things or manipulating the physical world by action. (This

even applied to faculties of medicine. If a surgeon was needed, people visited a barber not a doctor). By the 18th century the universities were largely moribund, their social function having become the perpetuation of the aristocratic elite."

In 1792 the Legislative Assembly of the French Revolution abolished the Sorbonne and three years later the Hautes Ecoles were established. They were dedicated to practical and technical learning - astronomy, geometry, mechanics, applied arts, natural history, medicine, veterinary science and rural economy, the new industries of their day - comparable to media studies or business and management. These actions were indicative of an explosion in technical knowledge during the 17th and 18th centuries, which had occurred almost entirely outside the universities. Investigation, experimentation and learning had largely taken place without formal structures or teaching institutions; the Hautes Ecoles were designed to help put this technical knowledge into practice and fuel the Industrial Revolution.

However, the French model of the Hautes Ecoles did not sweep across Europe. With the notable exception of the University of Berlin, under Von Humboldt, existing universities were slow to change. Industrialists, Princes or enlightened regimes found it easier to establish new institutions of higher technical learning than to change the power structures of the universities. So, for example, England in the mid-19th century saw the foundation of the University of London and the first of the civic universities, often driven (for reasons of public health) by the medical school. Elsewhere in Europe colleges of mines, engineering, and commerce were being established. Later we had the development of technical schools and colleges; these were specialised professional schools for teachers, nurses, artists and designers, all of which eventually went to provide the heritage of the English polytechnic system.

None of these types of institution had degree-awarding powers, though various professional diplomas were created. Throughout the course of this development the word "vocational", like the word "professional", was used to give dignity and status to practical, socially useful, and in some cases technical, activities. The next stage of evolution, suggested by Waterhouse (9, 2002), requires universities to re-conceptualise themselves as a service industry, not a priesthood of occult technology, or a restrictive academic guild. In place of the student and teacher come the customer and facilitator of

learning. Replacing the campus is the distributed system which technology enabled institutions to extend into the workplace.

Consequently, the ultimate value proposition for universities, Waterhouse argues, "is not that they can teach, nor even that they can sell research, but that they can assess: they accredit learning [wherever it takes place] and are awarding bodies. It is this social certification of successful learning that individuals, employers and ultimately society pay for." The next reinvention for the sector is contemporary vocationalisation and responsiveness to economic imperatives rather than learning. So what is being said here is that universities have engaged in a form of vocationalisation and that technical needs of business have generally been met outside the higher education system[1], often by further education colleges although the universities have engaged in the practice of the emerging and new industries. So today we have a split system, with technical colleges replaced by further education colleges and universities which have incorporated polytechnics which incorporated technical colleges increasingly acting as 'multiversities'. Kerr (1963) observes the 'multiversity' to be a more appropriate interpretation of the contemporary university on account of their increasingly diverse remit and function to meet contemporary traditional government requirements in research and learning and support the 'new' economic agendas . The shift from a historical and societal institution to an innovation-led and commercially orientated institution can be seen as a result of the third mission outlined by the 1993 Government white paper "Realising our Potential" (Cabinet Office, 1993).

Sadly, what becomes glaringly obvious from the 1980s onwards is the failure of successive governments to connect meeting employer need with the coherent provision of quality learning and research at all levels including further and higher education. This in part may be due to the artificial public policy split since the 1950s between training and education provision. This is compounded by continuous structural change even though our social and economic imperatives have remained largely consistent throughout this period. We have continued to alter the structures, arranging the deckchairs syndrome, but not addressed the basic fault line, a failure to understand training and education as an integrated 'learning continuum' that takes place in work, at

[1] It is worth noting that the main engagement of universities in business is through their business/management schools which is a relatively recent phenomenon.

home as well as college or campus. This is perfectly illustrated with the New Labour Government introduction of Sector Skills Councils (SSCs), the Sector Skills Development Agency (SSDA)[i] and the Skills for Business network (all of which are expected to resolve the UK skill and productivity gap) around 2000 onwards replacing the earlier National Training Organisations (NTOs) and National Training Organisation National Council (NTONC) expected to do the same, a 1990s model, which in turn were born out of industry training organisations/industry lead bodies and even earlier industry training boards established in the 1964.[ii] These organisational gymnastics are mirrored with technical colleges becoming polytechnics and polytechnics then emerging as the new universities in 1992. Further education colleges have followed their own path too.

Today the government has substituted technical education for with 'the skills agenda' and is applying it relentlessly across the whole education system including schools which in turn is leading to confusion, overlaps and needless competition. What we need is not more organisational solutions but an informed debate on an integrated approach to practical learning wherever it takes place whilst recognising liberal education has its place in a developed society. This is very unlikely as it requires engagement with the purpose of learning in our society.

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[i] The SSDA strategy suggests a greater interest in up-skilling the existing workforce, rather than entry provision as the vast majority of those who will be in the workforce in 10 or 15 yrs time are in work now.

[ii] National Skills Task Force concluded in its final report, 2000, 'The work over the last two years to rationalise the number of NTOs and raise their capacity has been very welcome, but we do not believe it has gone far enough. There are still in our view too many NTOs leading to confusion for employers and to organisations that are in some cases still too small to undertake the full range of responsibilities we believe is necessary". There is also a useful paper on the origins of the NTOs, Time to Overhaul the National Training Organisations, Martin Jones, Working Brief 120, December 2000.http//www.cesi.org.uk/_newsite2002/publications

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