Public Good and a Prosperous Wales
Reflections on the PCET reforms for UCU Wales
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1. Scope
These reflections on the Welsh Government consultation do not seek to be comprehensive. In terms of their focus they draw on my expertise in exploring the purposes of education, in pedagogy (general, vocational, apprenticeship), in workforce skills, in work based learning and on the issue of parity of esteem across pathways.

After some headline observations I respond to questions 14, 15, 16 and 22 in the Consultation Document where I can contribute expertise.

2. Headline observations
The attempt to coordinate post 16 learning and education in Wales by the creation of a new coordinating body, the Commission is very welcome. Equally commendable is the powerful ambition to value both 'vocational' and 'academic' routes equally (although I do not accept this stark delineation between them). The ambition to learn from the best in the world which permeates the Consultation document is admirable, too.

Unresolved tensions
There are some unresolved tensions in the Consultation including:
   a) reconciling the vision of the Well-being of Future Generations (Wales) Act 2015 with the largely economic drivers which predominate in the Consultation;
   b) balancing national skills needs with global thinking about the purposes of education systems;
   c) recognising the very different contexts of school, college, university and work based learning in terms of their pedagogy; the 'key challenges' section of the Consultation (pp 9-10) makes no mention of this;
   d) moving beyond a binary view of 'academic' and 'vocational' systems in order to build parity of esteem.

Put more specifically, the Consultation focuses on structural issues rather than on pedagogy, the core of what drives the quality of learning across the different sectors which the Consultation is seeking to join up. If the Hazelkorn recommendation to create an integrated PCET system in Wales is to be realised, then that system needs an overarching vision for what its desired outcomes are, an holistic and aspirational vision of the purposes of education in Wales. Against such a vision decisions about pedagogy can be taken; without it a paper like this is necessarily a more abstract structural conversation.

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[1] Bill Lucas recently chaired the creation of the professional teaching standards for the further education and work-based learning sectors in Wales. He is the author of a number of well-regarded research reports on vocational pedagogy, apprenticeships and employability, see references.

(a) A lack of commitment to well-being

With regards to well-being and resilience (p13) it is not clear how it is envisaged that the joined up systems of school, college, work based learning and universities will develop a more resilient or healthier Wales. Across the world there are examples of educational administrations seeking to do just this. The State of Victoria in Australia has set explicit targets for resilience and health, for example[2] [3] in their schools, which might be emulated across all sectors in Wales. In vocational settings I have argued that resilience needs to be an explicit goal of FE and work based learning, (Lucas, Spencer and Claxton, 2012, pp 42-54), specifically a combination of resourcefulness and wider skills for growth. Impetus, 2014; pp 17-24) argues that resilience is essential for work. Interestingly the Confederation for British Industry (CBI, 2012) has made similar arguments, suggesting that grit, resilience and tenacity are essential outcomes from school. From the university perspective, resilience is becoming an issue of well-being and drop from courses, (McIntosh and Shaw, 2017). The Consultation neither acknowledges the need to make resilience an explicit goal of all education sectors, nor considers how resilience may be developed.

(b) An outdated model of education

Notwithstanding the very contemporary ambition of more joined-up provision, the language of the Consultation is strangely backward looking and pays little attention to developments across the world. It is littered with references to skills, has just seven mentions of the word knowledge and no acknowledgement of broader concepts such as competencies, capabilities or habits of mind. If four sectors – schools, FE, work based learning and HE are to be dealt with more holistically then it will be important to find a common language.

The OECD (2016; p 2) has articulated a model for Education in 2030 which indicates the need to think beyond knowledge and skills, see Figure 1:

Figure 1 – Education 2013, OECD

Competencies (or what countries such as Australia and Finland, for example, refer to as capabilities) are here shown as the complex interaction between knowledge, skill, values and attitudes. It is a model of this complexity but clarity which will be helpful if the four different sectors being brought together in the new body are to buy in to the vision.

An indication of this kind of thinking can be seen in the innovative domain tests being developed by PISA. In 2015, for example, it was 'collaborative problem-solving' and, in 2021, it will be 'creative thinking'. But in the Consultation there is no recognition at all of these kinds of capabilities being desirable or valued. Arguably they could be a powerful way of aligning the needs of 'academic' and 'vocational' pathways.

In the last decade we have begun to understand with greater clarity those capabilities which are particularly useful. The two lists in Table 1, the first from an economic perspective (Heckman & Kautz, 2013) and the second from educational researchers (Gutman & Schoon, 2013) are useful here. Both sets of researchers describe those capabilities or, in some cases, transferable skills, which will improve outcomes for individual learners and so for wider society.

Perseverance	Self-perception
Self-control	Motivation
Trust	Perseverance
Attentiveness	Self-control
Self-esteem and self-efficacy	Metacognitive strategies
Resilience to adversity	Social competencies
Openness to experience	Resilience and coping
Empathy	Creativity
Humility	
Tolerance of diverse opinions	
Engaging productively in society	
Heckman & Kautz,	Gutman & Schoon

Table 1 – Capabilities for success in life

I have summarised the research into this area in *Learning to be Employable,* suggesting a list of important habits of mind (capabilities) which are important for success in life, Table 2:

Habits of Mind	Transferable Skills
Self-belief	Communication
Self-control	Time-management
Perseverance	Self-management
Resilience	Problem-solving
Curiosity	Team-working
Empathy	Giving and receiving feedback
Creativity	
Craftsmanship	

Table 2 – Centre for Real-World Learning's Habits of Mind and Transferable Skills for Employability

(c) Pedagogy: at the core of effective education

The significant omission in the Consultation is any recognition of the importance of pedagogy[4] or teaching and learning methods and the degree to which these are different in different contexts and depending on different desired outcomes. In a general school setting where the context is the classroom there is a well-developed and longstanding literature here, see, for example, Watkins and Mortimore (1999). At HE level, while less long-lived, there is a well-established tradition of research of which Hénard and Roseveare (2012) is a good overview. In HE and FE the issue of older learners needs to be addressed. That's to say that the maturity and motivation of adult learners are likely to be different from those at school. 'Andragogy' (Knowles, 1970) has been the term used for fifty years to mark this distinction.

The missing element to this debate has been a research-led discussion of pedagogy for vocational education of all kinds, something I have investigated at some depth over the last decade (Lucas and Spencer, 2015; Lucas, Spencer and Claxton, 2012).

The following list is indicative of methods which are relatively well-understood in some contexts. The majority are broadly 'learning by doing' or 'experiential', though many combine reflection, feedback and theory. For each one there is significant research to suggest that it is effective in vocational education:

- Learning by watching
- Learning by imitating
- Learning by practising ('trial and error')
- Learning through feedback
- Learning through conversation
- Learning by teaching and helping
- Learning by real-world problem-solving
- Learning through enquiry
- Learning by thinking critically and producing knowledge
- Learning by listening, transcribing and remembering
- Learning by drafting and sketching
- Learning by reflecting
- Learning on the fly
- Learning by being coached
- Learning by competing
- Learning through virtual environments
- Learning through simulation and role play
- Learning through games.

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[4] For a definition of pedagogy see Lucas, Claxton and Spencer (2013) – '…the science, art and craft of teaching. Pedagogy also fundamentally includes the decisions which are taken in the creation of the broader learning culture in which the teaching takes place and the values which inform all interactions'

Of course some of these methods will sit well in schools and universities, too. My point is that, the new Commission will need at least to recognise the complexities and subtleties of vocational pedagogy in colleges and work based learning settings as it seeks to take an overview of very different kinds of learning.

The obvious difference between work based learning and that provided by schools and universities is that the setting is primarily a work place not a learning place. As Joe Harkin (2012) reminds us:

> *There is no one-size-fits-all approach. There is a strong consensus that effective teaching methods for vocational learning are based on realistic work problems and scenarios, led by teachers and trainers who have recent and relevant vocational experience.*

(d) Parity of esteem
In its wish for parity of esteem between sectors the Consultation joins a long list of bodies tasked with bringing this about. But for as long as the emphasis is on structures rather than on what actually goes on – pedagogy - the evidence suggests that this is unlikely to come about.

In *How to teach vocational education* (2012) I argue that the most important requirement is for those delivering vocational education, via apprenticeships, via colleges and in workplaces need to set a much more ambitious set of goals. For the danger is that vocational routes are seen simply as means of developing skills and expertise for the workplace. I suggest a very broad specification of the kinds of capabilities that should be central to vocational education in the 21st century:

1. Routine expertise (being skilful)
2. Resourcefulness (stopping to think to deal with the non-routine)
3. Functional literacies (communication, and the functional skills of literacy, numeracy, and ICT)
4. Craftmanship (vocational sensibility; aspiration to do a good job; pride in a job well done)
5. Business-like attitudes (commercial, entrepreneurial, social)
6. Wider skills (for employability and lifelong learning).

Too often vocational education is defined by the first of these six outcomes and inevitably suffers when compared to 'academic' alternatives at school or university.

Our research into the teaching of vocational education was specifically recognised with regards to issues of parity in the first serious national study of these issues led by Frank Mcloughlin (2013) in the Commission on Adult Vocational Teaching and Learning (CAVTL):

For too long, the sophisticated and connected process of teaching, training and learning has been undervalued. The Commission therefore agrees with Lucas, Spencer and Claxton (2012) about the importance of codifying, recognising and valuing the sophisticated practice of vocational pedagogy.

Question 14 – Models for a Quality Assurance Framework

Any model will need to have resonance for schools, colleges, work based learning settings and universities. The European Quality Cycle[5] offers a useful framework which might be adapted to include a common set of desired outcomes (see page 5) into which each sector could buy?
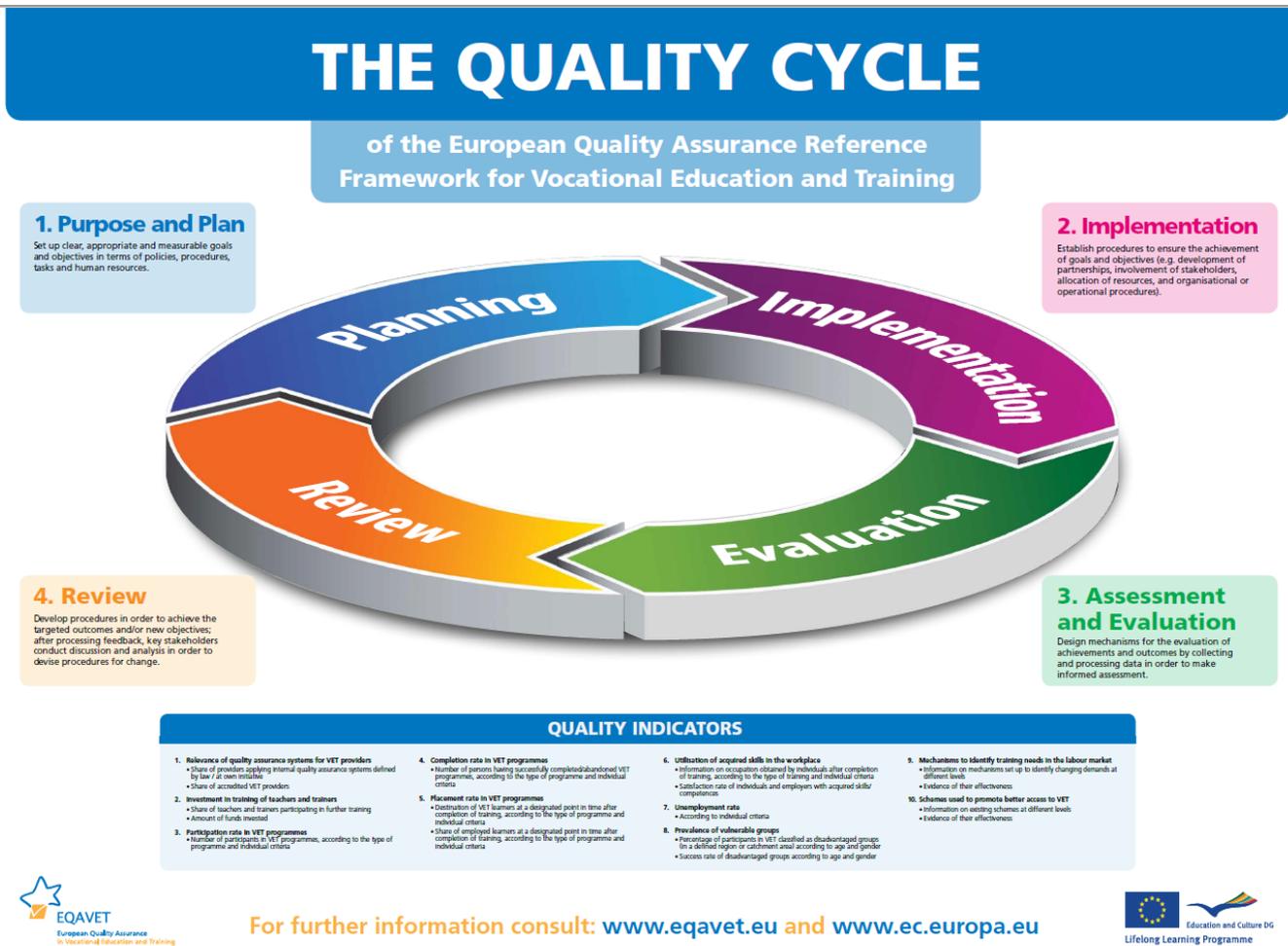
Question 15 – A focus on quality enhancement

There is a good opportunity for engaging directly with the workforce as part of their professional learning in this process and in line with the recently revised professional standards for teachers and those working in FE and WBL. Alignment post 16 will be important and challenging and a framework which enabled teachers and practitioners to engage, formatively with these issues might be useful as the Commission begins its work.

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[5] http://www.eqavet.eu/gns/policy-context/european-quality-assurance-reference-framework.aspx

Question 16 – Apprenticeships and the Commission
It is a telling omission to me that this question sits within a section on financial and governance assurance. My earlier comments on the need for ambitious outcomes and a focus of pedagogies which best deliver these are of critical importance here. If the Commission is to oversee the uptake of more apprentices at level 4 and above, then a far more fundamental consideration of pedagogy for apprenticeship is required.

As with my earlier comments the first stage is to define the outcomes wanted from apprenticeships before rushing into structures and accountabilities. In *Remaking Apprenticeships* (2015) we defined an apprentice in ways which make clear a level of ambition:

> *An apprenticeship is a mutually beneficial relationship between a learner and an employer in which an individual, through a blend of on- and off-the-job methods and by working with other more skilled people, becomes competent in a chosen occupation. By competence we include both routine and non-routine expertise. Apprenticeship, in addition, equips potential employees with the habits of mind of someone who has a deep pride in the vocational activity for which they are being formed, while at the same time developing the wider skills they will need for a lifetime of working and learning. While the learning will focus on the demands of contemporary workplaces, it will also unambiguously seek to prepare the apprentice morally and socially for active citizenship.*

Apprentices differ from school, college and university students in that they are primarily employees rather than learners.

Despite the many different kinds and levels of apprenticeships our research has suggested that there are three key features of apprenticeship learning:

1. The fact that they require both *on and off-the-job learning.*
2. Their social context – that they require *learning from and with others* within a community of practice.
3. The requirement for *visibility of learning processes* – as an integral aspect of the first two and as an increasingly acknowledged feature of effective learning wherever it takes place.

These are explored in more detail in *Remaking Apprenticeships.*

There are many issues that could be explored in more detail but three seem most important; a consideration of the amount of time it takes to become really skilled and how not enough time is allowed in higher level apprenticeships; the enormous opportunities of digital learning and the specific complexities of the social partnership between employer, college and work based learning provider in the provision of apprenticeship learning.

Question 22 – Retention and completion
The higher the quality of the learning the more likelihood of better retention. Sophisticated pedagogy and high-quality teachers and work based learning practitioners are the key.

References

CBI (2012) *First steps: A new approach for schools*. London: CBI.

Gutman, L, & Schoon, I (2013). *The Impact of Non-Cognitive Skills on Outcomes for Young People: Literature review.* London: Institute of Education, University of London.

Harkin, J. (2012) *Institute for Learning Preparatory Research to Inform the Work of the Commission on Adult Vocational Teaching and Learning.* London: Institute for Learning.

Heckman, J, & Kautz, T (2013). *Fostering and Measuring Skills: Interventions that improve character and cognition - NBER Working Paper No. 19656.* National Bureau of Economic Research.

Knowles, M (1970) *The Modern Practice of Adult Education: Andragogy versus pedagogy.* Chicago: Follet Publishing Company.

Lucas, B and Claxton, G (2009) *Wider skills for learning.* London: NESTA.

Lucas B, Claxton G, and Spencer E (2013) Progression in student creativity in school: first steps towards new forms of formative assessment. *OECD Working Papers*, No 86, Paris: OECD Publishing.

Lucas, B and Hanson, J (2016) *Learning to be employable: Some lessons for young people from character education.* London: City & Guilds

Lucas, B and Spencer, E (2015) *Remaking Apprenticeships: powerful learning for work and life*. London: City & Guilds

Lucas, B, Spencer, E and Claxton, G (2012) *How to teach vocational education*. London: City & Guilds Centre for Skills Development

McIntosh, E and Shaw J (2017) *Student Resilience: Exploring the positive case for resilience.* Bristol: Unite Students

McLoughlin, F (2013) *It's about work; excellent adult vocational teaching and learning.* Coventry: LSIS

OECD (2016) *Global competency for an inclusive world*. Paris: OECD

Hénard, F and Roseveare, D (2012) *Fostering Quality Teaching in Higher Education: Policies and Practices.* Paris: OECD

Watkins, C and Mortimore, P (1999) Pedagogy: What do we know? *In:* Mortimore, P. (ed.) *Understanding Pedagogy and its Impact on Learning.* London: Paul Chapman Publishing Ltd.