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Email only

UCU Wales Response to Innovation Strategy for Wales

The University and College Union (UCU Wales) represents almost 7,000 academics, lecturers, trainers, instructors, researchers, managers, administrators, computer staff, librarians, and postgraduates in universities, colleges, adult education, and training organisations across Wales. UCU Wales is a politically autonomous but integral part of UCU, the largest post-school union in the world. We welcome this opportunity to respond to Welsh Governments Innovation Strategy for Wales.

In this response, UCU Cymru focuses on how innovation in education can power a partnership designed to grow strategic elements within the Welsh economy. Taking portability, flexibility, and access to lifelong learning as prerequisite, we identify the new Commission for Tertiary Education and Research strategic role in scaffolding coherent learner pathways, a modern credit accumulation system and a world-class Welsh Apprenticeship Framework. UCU Cymru also argues for a suite of future proofed qualifications and the innovative deep learning that can serve tomorrows economic needs. Finally, we focus on international comparators to explore the conditions of professional autonomy which underpin innovation in teaching as well as the urgent need to address the demands of many Welsh postgraduate researchers (PGR's).

The Conditions for Innovation – Building the 'Missing Middle'

In December 2020, UCU Cymru [wrote](#);

“During the past 9 months, we have seen how adaptations under conditions of shock can boost the pace of innovation. In the same way that the pandemic has replaced physical distance with digital proximity, our exit from the European Union is likely to accelerate developments in automation. Tomorrow's Industry 4.0 & 5.0 will require new patterns of working and habits of mind. Capabilities such as agility, collaboration and creativity are essential to the success of a modern economy. Whilst Prosperity for All and 'Fair Work provide useful frameworks, just transition must be complimented by a collaborative post-16 education sector which makes use of creative pedagogies.”

“Clearly, if Wales is to grow a high-quality industrial ecology in which good jobs are retained, it is imperative that we develop organic industries at the same time as attracting external investment. However, skills partnerships and FEI's

currently model provision on the basis of historical and short-term vacancies. Accepting that we cannot build the houses of today with the bricks of tomorrow, thought needs to be given as to how education and investment... interacts with communities, FEI's, business (particularly SME's) and wider areas reserved by government; particularly funding for education and training; progression pathways and Adult Community Learning."

To date, Colegau Cymru's [Enabling Renewal](#) provides the best attempt to achieve this synthesis. Published in November 2020, the report sketches a mechanism through which colleges, business and government can come together to prompt regional development whilst simultaneously improving the offer to Welsh learners. Focusing on the Welsh 'missing middle' (socially rooted medium sized enterprises), the paper anticipates a reciprocal relationship in which business would receive practical support through R&D in return for helping implement a deeper and broader European system of vocational learning.

In common with [OECD FRDW](#), Enabling Renewal takes a disorganised economy and "splintered polity" as its starting point. Referencing previous attempts to attract external investment, the report concludes that dependency on "manifestly precarious...Welsh household names" cannot address longstanding issues such as low productivity and bottle necks in training. Consequently, whilst the contribution of larger undertakings to Welsh GVA might seem disproportionately high, much of this can be attributed to typically operating in the upper reaches of their supply chain with access to UK and international markets. As we have recently seen, the disruption generated by Brexit and Covid renders such models vulnerable to relocation – particularly where the parent company has access to mobile capital.

Wales ability to grow its middle will not only determine the shape of the future Welsh economy but also play a large part in determining whether social partnership takes hold in the private sector. Acknowledging how the OECD and other organisations link successful social partnership with effective innovation, it is significant that the 'Mittelstand' provides the backbone for both across the devolved German Lande.

Clarifying the relationship between Welsh Government, Regional Partnership Boards and Corporate Joint Committees can provide a structure for this work. Similarly, the Welsh Regional Investment Plan and Welsh Innovation Strategy supplies a blueprint. However, neither offer the conditions – a flexible and agile workforce equipped with the capabilities, skills and habits of mind necessary to navigating a rapidly evolving economy. UCU Cymru believes that agility needn't equate to precariousness when learning is coherent, accessible and lifelong. In order to get there, we recommend that focus in the following areas:

Access, Portability & Flexibility – Pathways & Credit Accumulation

UCU firmly believes that we foster innovation by democratising opportunity. Whether from the perspective of a disaffected young person seeking work in a dynamic employment market or an older employee attempting to respond to changing economic patterns, access to relevant life-long learning will be of key importance. Referencing OECD's Regional Development Report

2020 (OECD FRDR 2020), the emphasis on place-based activity prefigured in 'Better Jobs – Closer to Home' requires an adequately funded, protected and well-planned system. This must be one of key tasks for the new Commission for Tertiary Education and Research.

However, a commission which brings together two separate funding bodies does not, of itself, deliver the necessary culture or desired coherency across the FE and HE sector. Rather, it must work to align funding with a common set of principles to ensure consistency for learners across the PCET sector. If lifelong learning is to be a goal for every citizen, the Commission must focus on the structural barriers which currently hold back these developments and inhibit genuine collaborative working within the sector.

UCU Cymru envisages a social model of education in which provision wraps around the rhythm of a learners' life as it is actually lived. Recognising no real distinction between the 'academic' and vocational' we don't see why an apprentice who embarks upon a course at the age of 14 should not enjoy the opportunity to emerge with an equivalent masters in her early twenties or late thirties. However, if government are serious about increasing accessibility, we need to design coherent pathways and develop the transferable credit system to underwrite them. Given the recognised need to develop medium-level skills throughout every Welsh region, one solution will be to increase access to financial support for those who can only study in small chunks, such as one module at a time due to family commitments and other life pressures. Nevertheless, if this learning is to be meaningful, institutions and employers will need a 'common currency' through which it can be applied and understood.

A Welsh Credit and Qualifications Framework (CQFW) was launched in 2003 with the purpose of implementing common standards and measures by which learning achievements can be defined across Welsh HE, regulated qualifications (GCSE, A level, Welsh Baccalaureate) and lifelong learning sectors¹. The framework recognises that "Credit can be awarded for the achievement of learning outcomes that have been verified through the appropriate rules, regulations and assessment for each of the pillars. After a decade of operation, the Welsh Government commissioned a qualitative review of the performance of CQFW. The findings suggested that whilst the framework's strengths lay in its latent potential to support credit policy and practice, these advantages were yet to be realised. Reasons for this included lack of uptake and embedding across sectors, excessive focus on full time qualifications, the absence of seamless progression routes and lack of 'user friendliness' /stakeholder understanding.

The new commission will have the power and opportunity to address these issues. Charged with promoting life-long learning, it can develop a framework based upon the common currency of credit (such as the CQFW) to encompass all of the levels / modes of study and types of qualification that comprise the Welsh tertiary sector. To support innovation, we must bring formal academic and vocational qualifications under a single, unified framework in which all providers (including universities) are expected to use the CQFW definitions of level and credit to describe their qualifications and learning programmes.

Innovation in Vocational – a Welsh Apprenticeship Framework

UCU Wales believes that if Wales were to create a framework which met international vocational standards, it could lead the way in this field, especially in engaging SMEs to allow their workforce access to part-time apprenticeships.'

Prior to the pandemic, UCU had already been lobbying to obtain a coherent apprenticeship framework for Wales, which would allow learners to move from a junior apprenticeship at the age of 14 through to a master apprenticeship at level seven. The introduction of the new curriculum in schools looks to the 21st century to ensure that school leavers are properly prepared for structural changes to work - with the increased use of digital technology and the changes in the production processes in manufacturing. The current government's health and wellbeing goals are key drivers in this space. We must ensure that we have an apprenticeship framework which meets the needs of the individual and the employers in Wales, many of whom are SMEs. Responding to 'Public Good – Prosperous Wales', Professor Bill Lucas argued on behalf of UCU for a framework which addressed the key issues as he saw them.

"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 holistically then it will be important to find a common language."

Not only is a common language needed, but also a common apprenticeship framework, which allows workers to pick up learning at appropriate points in their development; which coheres in terms of competencies, capabilities and habits of mind, is flexible and set within a credit and accumulation framework to allow part-time access at every level post junior apprenticeship.

UCU proposes developing the Welsh 'Credit and Qualifications Framework' to allow for credit accumulation and transfer, alongside accredited prior learning, within a common Apprenticeship Framework for Wales. This would introduce greater flexibility into the system, allowing apprenticeships to adapt to lives as they are lived. Research demonstrates how parity of esteem ensures a more equal, cohesive and motivated society. Moreover, referencing the success of systems in Holland & Germany, with a degree of portability and the right balance of flexible access arrangements, there is no reason why a young apprentice might not achieve an equivalent Masters' qualification. This is crucial both from the standpoint of boosting associated GVA and raising productivity.

Innovation in Qualifications

Pathways and the credit accumulation framework which scaffold them will only promote innovation for as long as qualifications are fit for the shape of the Welsh economy.

In 2020, Future Generations Report concluded that:

"There is a need to align our qualifications system with the Well-being of Future Generations (Wales) Act and vision for education in Wales. The way children and young people are currently taught to pass exams will not provide them with the skills and knowledge to meet future needs"

UCU Cymru believes that this need would be met by a suite of quality foundational qualifications designed around a broad core and supplemented by flexible modules or 'mini credentials' to enable specialisation. For ease of reference, these proposals bear some similarity with the highly portable German system (where a baker apprentice will learn enough applied chemistry to work in laboratory environments). Armed with such a qualification, we can envisage a new cadre of motivated Welsh learners whose bargaining strength is not only expressed through their union membership but also their deep knowledge and extensive capabilities.

Nor are these benefits restricted to high-tech 5.0 industries. As seen in many other European jurisdictions, this approach can grow innovation both in the foundational economy and amongst all important SME's. One classic study concerned mid to high range hotels in the UK and Germany. It found that 'German hotels apparently require half (51%) of the labour per guest night as did the British hotels of the same quality grading. This was primarily a legacy of human rather physical capital factors. The key difference were higher levels of skills in German hotel (35% of German hotel staff had trade level qualifications compared to 14% of equivalent UK employees). This in turn was attributed to vocational courses offering learning that tended to be both broader in issues covered and more comprehensive in terms of depth (including well-developed IT skills). Crucially, it was this which enabled German hotel workers to easily move between all work needs in the hotel - front of house as well as back of house operations.

UCU Wales sees the potential to sketch out a transformative and genuinely symbiotic relationship between the private and post 16 education sectors built around social licencing and collaborative hubs. In our [submission](#) to the WG consultation on the Social Partnership and Procurement Bill, we wrote "ultimately, this can feedback as an added incentive through which socially licenced businesses will have access to R&D and bespoke assistance in market development, technological and digital adaptation and a scale of long-term planning which is generally only encountered in cooperative enterprises". In adopting this method, social partnership can play a transformative role both in promoting a sustainable base for fair work and building the conditions for its future development. Most of all, being freed of the constraints of preparing learners for high-stakes memory testing, teachers will be liberated to teach. From there, it is relatively easy to see how constant practical dialogue, combined with coherent learning pathways, can inform a more agile qualification system whilst building the future industries in which Welsh learners will work and learn.

Indeed, whether expressed through the medium of education, regional development or social partnership, this theme of augmentation or 'future-proofing' influences much of current progressive thinking. OECD Professor Bill Lucas has written extensively around the methods assessment which learners most value. In critiquing the current regime of GCSE's, Lucas focuses on a

continuum of deep to shallow learning to demonstrate how emphasising capabilities, competencies and habits of mind in addition to knowledge, can better reward and develop a student's progress. Having surveyed a rich catalogue of international and UK examples, Lucus concludes that the "the future is digital.

Consequently, the Commission may wish to consider how, in the context of a fully functional credit and qualifications framework, common standards for the recording of student achievement could underpin world-leading innovations in digital certification of awards for Welsh learners.

Innovation in Assessment – Deep Learning

In reimagining future proofed qualifications; which not only support but also incentives lifelong learning, it is essential that we get assessment right! We know that around 129,000 school-age children live below the poverty line in Wales. What is less well understood is how childhood disadvantage intersects with our high-stakes exam system to push Welsh learners out of education and learning.

To understand how this works, we need to appreciate two very hard facts. In their report, *The Forgotten Third*, the Association of School and College Leaders make the following observation;

"The fact that more than a third of 16-year-olds do not achieve at least a grade 4 standard pass in English and maths year in and year out is not an accident but the product of the system of comparable outcomes which is used to set GCSE grade boundaries. This system determines the percentage of students achieving the respective grades at GCSE by looking at what cohorts with similar Key Stage 2 results achieved in previous years."

Put simply, the credibility of our entire qualification system is based upon the certainty that, regardless of how well they do, it will 'fail' one third of all learners. More to the point, many of those who do not achieve a 'C' grade come from working class backgrounds and will have experienced some form of deprivation. It is an irony that in Summer 2020, when the current assessment system broke down, people actually sat in offices and sought to design an algorithm which would simulate these injustices.

The equity question is of especial importance given the current context of poverty in Wales. In 2019, the Resolution Foundation predicted that by 2023, Wales might confront child poverty levels of 40%. Sadly, July's CPAG report [indicates](#) that we are well on the way.

Furthermore, an Education Policy Institute [report](#) published in the same month demonstrated the devastating impact of child poverty on attainment and clearly states that for children in Wales,

"...the disadvantage gap in GCSE results was higher at about 22-23 months of educational progress in 2019, and only down on 24 months in 2011."
We believe that equity and social justice are essential features in any education system which seeks to ground innovation. Citing OECD [Equity in Education –](#)

[Breaking Down Barriers to Social Mobility](#)’, we note that “The highest-performing education systems across the OECD are those that combine quality with equity.”

UCU Cymru is not opposed to formal examinations. Rather, we argue that standardised testing must be balanced with opportunities for the deep learning which develop the competencies, capabilities and habits of mind - valued by higher education and employers alike. In our view, the problem occurs when traditional examinations become the dominant form of assessment. As well as being entirely unsuited to the new curriculum’s focus on individual learning, the propensity of high-stakes testing to drive teaching methods also reduces opportunities for the type of team learning and curiosity-based projects which embed innovative habits. This is also significant since it is precisely these methods which have been shown to promote learner wellbeing and close the attainment gap as well as offering occasions for character development.

Nor is the damage restricted to school years when it reinforces notions of individual failure to deter a potential third of learners from pursuing lifelong learning. Whereas it was previously held that paid employment provided the surest route out of poverty, we now know that this is no longer necessarily the case. [Across the UK](#), the majority of people in poverty (57 per cent, or 8.3 million people) live in a working household. That rises to 75 per cent of children in poverty. In Wales, there is good reason to believe that this proportion might be higher.

In common with fair work and collective bargaining, the OECD, have [consistently](#) identified lifelong learning as a crucial lever in equipping workers with the diverse skills, competencies and capabilities necessary to thrive in a transitional economy. Moreover, the availability of staff skilled in areas such as complex problem solving, critical thinking and emotional intelligence (p42 DL) will prove integral to the development of socially rooted SME’s.

It is on this basis that we argue for a system of assessment which not only compliments an exciting new curriculum but also engenders a love of learning commensurate to our ambition to become a ‘second chance nation’. In ‘Deep Learning’ the authors utilise over 60 case-studies to illustrate how collaborative pedagogies rooted in socially relevant projects can excite agency and promote equity. Whilst many of these case studies are remarkable in their own right, the most significant finding is worth reproducing in full;

“In implementing deep learning in scores of settings, we began to see that under the right conditions immersive learning reaches everyone. It was this realisation that led us to the ‘equity hypothesis’ referred to above: Deep learning is good for all but is especially effective for those most disconnected from schooling”

Put differently, it would be equally fair to say that the acquired benefits of enhanced social capital (such as private tuition and access to knowledge networks) can become collectively advantageous in a collaborative setting. This should come as no surprise – as Sahlberg points out, “A child’s learning is a function more of the characteristics of his classmate than of those of the teacher.” (Bristol Teacher Fest, 2022)

Accepting that a qualification might make some balanced use of memory testing, if Wales is to liberate the power of collaborative education, the primary purpose of assessment must be to support and measure the development of deep learning around formative group tasks. In this way, we can design qualifications which equip all learners for future success whilst minimising the life-long damage which follows on from branding one third of learners as failures.

Innovation in Teaching - Scaffolding Change

Adapting new hybrid tools to deliver deep learning across a range of future proofed qualifications will require educators to develop innovative approaches and pedagogies. Similarly, supporting deep learning through creative and socially grounded assessment necessarily entails moving away from standardized techniques (such as 'teaching to the test') towards a greater emphasis on collaborative learning between staff as well as learners.

Whether understood as 'communities of practice' or 'whole school approaches', the international evidence indicates that professional autonomy when combined with freedom from the onerous burden of external assessment tends to deliver improved learner outcomes.

In Finland – an OECD superstar, the basic assumption is that education is a collaborative process and that it is cooperation and networking between professionals which raise the quality of education.

Government works with the profession to set a clear but flexible national framework for locally based curriculum planning. Sharing some similarities with new Welsh school curriculum, institutions are encouraged to innovate teaching around widely defined national goals and arrive at personalised learning opportunities.

Crucially, a commitment to equity lies at the heart of this work. The Wales Program of government seeks to foster a more equal nation by emphasizing that all children should have equal prospects for educational success. In contrast, competitive models necessarily tolerate a high degree of inequality, betting on market forces and performance management to punish 'failure' thus raise 'standards'.

This is significant in as far as it speaks to a central question; if we invest in professional learning to move towards a more collaborative system of education, how can we be sure that teaching will improve? After all, ensuring that services are no better or worse in Bangor and Baglan is very much a part of Welsh Governments DNA.

Referring to the current academic debate, the simple answer is 'trust the teacher'.

Remarkably, there is little evidence to support the claim that enforcing external school evaluation systems and standardised testing promotes better learning or outcomes. Rather, the assumption that all learners should be educated by rote to the same paper targets not only stifles pedagogy but also serves to de-professionalise teachers by reducing their craft to a series 'measurable' actions.

Furthermore, the notion of inspection as 'standardising evaluation' also reveals a lack of social ambition. It assumes that inequality is the natural state and that, since the poor are always with us, we must ensure that they receive the same measurable dose of education as everybody else. High functioning, innovative societies empower teachers and invest in professional learning precisely because this delivers better outcomes. The innovative strength of professional learning communities is also evidenced by their greater agility in adapting to new challenges. Most recently, this was demonstrated by Finnish, German and Dutch education settings rapid adjustment to digital delivery under conditions of Pandemic shock.

The research of Pasi Sahlberg and Andy Hargreaves demonstrates the advantages of building a culture of responsibility and trust within the profession. Such a culture will necessarily value teacher professionalism and judgement in determining what is best for schools.

Drawing on these lessons, UCU Cymru focuses on the benefits of collaborative professional learning and can already point to promising findings from our Welsh Government funded professional learning project. Furthermore, research indicates that the time and space for adaptation already exists if combined with a change in approach.

Additionally, there is a need to ensure that time and space is created in educators' workload to enable collaboration. Sahlberg cites OECD figures (*Finnish Lessons 3.0* p.113) to demonstrate that there is no correlation between net instruction time in primary/lower secondary school and net performance, when measured via PISA test results. Indeed, several jurisdictions are shown to perform better with around 40% less formal teaching time. Although Sahlberg characterizes this paradox as 'Test less – learn more', (p114), all the sources agree that deep learning, in common with collaborative professional learning which scaffolds effective pedagogies adds value to time spent teaching. We contrast this with the practice of 'over teaching' or using past papers to drill model responses across an increasingly broad range of material.

Consequently, as the regulator's formal consultation approaches, UCU Cymru will argue for due consideration in relation to all these matters. In particular, we will advocate for a process that fixes equitable education front and center of qualification design, making the links between equity of curriculum, equity of pedagogy and equity of assessment.

Innovation in HE Early Careers – Developing Talent

As is already known, Professor Graeme Reid's '[Strength in Diversity Report](#)' (2020) sets out a transformative plan by which the sector can capture a greater share of UK research grants by collaborating in areas of joint interest. Moreover, in 2021 HEFCW [acknowledged](#) the need to ensure that "future innovation policy do more to encourage universities to develop their translational research activities to bridge the gap between research and innovation in Wales", elaborating "a new innovation strategy must be accompanied by investment in the skills, capabilities and resources needed to support innovation".

Whilst UCU Cymru endorses both objectives, we note an absent focus on one of the main, enabling factors – the post graduate researchers (PGR's) who undertake the majority of research work, scaffolding Wales' contribution both at home and internationally.

HEFCW's '[Research and innovation](#)' – a Vision for Wales' envisages "that research environments will be strengthened via a culture that promotes and supports integrity, diversity, inclusivity and researcher mobility."

Sadly, this does not reflect the experience of many PGR's.

In May 2022, UCU published [report](#) which presented the findings of a survey into the experiences and needs of 955 postgraduate researchers in UK higher education (including Welsh institutions). Issues highlighted by respondents can be grouped into three categories:

1. Insufficient income and/or funding and the associated workload and time costs
2. Insufficient specificity in training and the formal requirements of the PhD for career development
3. Insufficient interpersonal support and integration of PGRs within universities

Low pay and/or the ability to meet the costs of the PhD was the biggest issue for the majority of PGRs. It was noted that this would likely have a knock-on effect on issues of health and wellbeing, concerns about workload and worries about career progression. Extra casualised work outside of the PhD was not considered to be an effective solution, with survey comments often describing significant underpayment and unfair workloads where adequate work opportunities could be accessed.

The report also highlights structural barriers across a range of equality streams including sex, disability and race. Adopting an intersectional approach, these obstacles are frequently seen to combine with socio-economic background to privilege those who can draw upon other resources such as parental assistance.

As with qualifications and assessment, Wales cannot afford to squander talent on the basis of economic predestination. The labour of postgraduate researchers is of far greater value than they are typically paid (or in some cases pay) to do. Consequently, having the capacity for valued duties to be formally recognised and flexibility integrated into PGRs' requirements with respect to pay, workload, and agreed funding period extensions will help to address some issues of required privilege in the UK PhD system. This could be achieved through universities being required to buy out PGRs' time, which would then, where applicable, entail a funded extension equal to the time required for the work

Successfully completing a PhD' must be about more than just 'surviving' broken systems and a lack of support. PGRs must be enabled to thrive through the provision of adequate support and resources to do research they care about, to be able to build meaningful careers in relevant fields, and to live well. Currently, systems and processes do not provide this support efficiently or fairly. Efforts by PGRs to meet their needs in one of these areas can mean trading off or neglecting needs in the others. As a result, getting through the PhD can often be

as much in spite of the way postgraduate research is structured as it is because of it.

UCU Cymru supports the ambition to establish a Welsh innovation culture. However, and in order to scaffold it, we must urgently address the predicament of some of our chief innovators!