



**National Assembly for Wales Economy,
Infrastructure & Skills Committee:**

Inquiry into research and innovation in Wales

12 October 2018

ColegauCymru
Uned 7 Cae Gwyrdd
Greenmeadow Springs
Tongwynlais, Caerdydd CF15 7AB
Ff: 029 2052 2500
E: helo@colegaucymru.ac.uk
W: www.colegaucymru.ac.uk

CollegesWales
Unit 7 Cae Gwyrdd
Greenmeadow Springs
Tongwynlais, Cardiff CF15 7AB
T: 029 2052 2500
E: hello@collegeswales.ac.uk
W: www.collegeswales.ac.uk

Introduction

ColegauCymru welcomes the opportunity to respond to the National Assembly for Wales Economy, Infrastructure & Skills Committee's Inquiry into research and innovation in Wales. ColegauCymru represents the 13 Further Education (FE) colleges and FE institutions in Wales.

Response

ColegauCymru notes the inconsistent role envisaged for Further Education colleges in the questions set out by the Committee and in the terms of reference. For example, there is concern to ensure that the research and innovation interests of universities and colleges do not over-shadow the research and innovation interests of industry, but no reference to colleges with regard to the specific issue of how "universities and business (particularly SMEs) interact with each other".

Colleges often work closely with SMEs on areas of applied research and, given their bases in local communities, are well-placed to do so. For example, an innovative project is currently underway to address the agricultural industry's impact on the environment by developing a dewatering and purification system to manage slurry. The project brings together Coleg Sir Gâr's Gelli Aur agricultural campus and Power & Water, a Swansea-based company specialising in electrochemical-based water treatments. ColegauCymru would be happy to facilitate a visit to this college for the Committee to gain a better understanding of the way in which FE colleges contribute to applied innovation.

It is of particular concern to ColegauCymru that FEIs are often themselves ineligible for funds to support their own innovation and applied research functions. Many funding streams are only available to universities. ColegauCymru welcomes the Reid Review's recommendation that in the future, colleges should be able to apply to HEFCW for Innovation and Engagement funding and hopes that the necessary metrics to allow this can be developed as soon as possible. ColegauCymru and FEIs will be very happy to support this process.

ColegauCymru is currently supporting a Welsh Government visit to the TKNIKA centre in the Basque Country which, as part of its core functions, has a role via its TKGUNE¹ to support innovation amongst SMEs working in key economic sectors such as manufacturing, automation, automotive and the creative industries. It is hoped, but not guaranteed, that this visit will help inform Welsh Government policy and support and strengthen the existing work being undertaken by Wales' network of FE colleges. The Committee might like to discuss this with the officials taking part in this visit and raise with the Minister as to how the Welsh Government plans to support innovation and applied research in this way in Wales.

¹ <https://www.tkgune.eus/en/>

The Welsh Government says that there needs to be a “major increase” in research intended to help solve specific challenges facing Wales (challenge-led research). It also says this type of research needs to be balanced with the more traditional type of long-term research undertaken by universities which pushes the boundaries of knowledge.

1. To what extent do you agree with this view and how can Welsh Government ensure that an increase in one type of research activity doesn't mean the other type loses out?

1.1 We would broadly agree with the principle of the need for the application of research to the challenges facing business and also public services.

1.2 The circumstances in which Wales finds itself at present call for a change in approach to addressing specific challenges. While there remain long-standing structural problems in Wales which have yet to be overcome successfully, the ongoing (and to a great extent still unknown) challenges posed by the UK's departure from the European Union create specific challenges that will need to be addressed over the years ahead. Some of these challenges, which have been long anticipated, will only be increased with the advent of further automation and the disruption to sectors such as retail, hospitality and tourism as well as sectors such as accounting and financial services².

1.3 ColegauCymru is supportive of the move towards challenge-led research but notes that this needs to be balanced against longer-term research which might develop innovative and unexpected solutions to problems. However, the role that colleges can and could play in challenge-led research needs to be recognised – this should not be confined to universities.

1.4 The development and establishment of TERCW presents an opportunity to address the issue of ensuring that different types of research receive an adequate balance of funding by taking a holistic view of the post-16 sector and its partnerships. ColegauCymru is concerned that in this specific case, and more generally, that the lack of a clear legislative 'slot' for the required PCET bill will hinder the development of a wider frame of reference for supporting research and applied innovation as well as the introduction of the necessary reforms to post-compulsory education.

1.5 We conclude on this point by noting the slow pace of change and in particular the steps required to leverage the role of FE colleges to enable Wales to adapt and prosper.

² C. L. Keenoy (1958) The Impact of Automation on the Field of Accounting. *The Accounting Review*, 33(2), 230-236.

Welsh Government has said it wants to bring all research funding together and that this funding should then be available to small and medium-sized enterprises (SMEs), large private businesses, and other organisations as well as universities and colleges.

2. To what extent should businesses and other organisations be able to receive Government research funding that might have otherwise gone to universities and colleges? How could this be done without under-funding some organisations – might there be unintended consequences?

2.1 It is important to note that colleges do not have the same level of access to research funding as universities. The key issue here is one of partnerships and the avoidance of unhelpful competition. Colleges, universities and businesses of all sizes should be encouraged to work together to form innovative research bids that address specific issues, such as the water purification project outlined above involving Coleg Sir Gar. Research programmes which encourage this sort of collaboration should be facilitated. The decision of the Basque Government to facilitate this level of cooperation via a dedicated facility should be considered as a means of avoiding unnecessary competition.

2.2 The former Strategic Insight Programme (SIP), led by then University of Glamorgan, allowed university academics to spend time in external organisations to help them better understand how their research or area of work could have applicability and impact in a particular organisation or industry sector. It also allowed them to carry out initial scoping work and establish/develop collaborative relationships with companies, organisations, the public sector or not-for-profit bodies.

2.3 Consideration should be given to another pan-Wales scheme of this type but which extends the offer to include FEI staff. As with the original scheme, it should also include the 'Reverse SIP' offer, whereby funding was made available to those from outside the university sector to undertake a placement within the university to develop relationships and understand the potential for specific collaboration in the future. Any new scheme should also include FEIs as hosts.

2.4 It should be noted that current funding via the Sector Priorities Programme (or SPP) which allows FE lecturers to engage directly with business and innovation partners is currently under review. The funding programme recently supported a ColegauCymru-organised visit to ProjectZero in Sonderberg Denmark³ to support the development in Wales of innovative practices in retrofit construction.

2.5 Again, TERCW represents an opportunity to oversee funding for research made available by Government and to ensure that a fair balance which meets need is achieved. The views and participation of employers of all sizes is integral to the success of TERCW. Whilst the development of the Commission is under

³ See <http://www.collegeswales.ac.uk/localnewsprint.php?N=NTEEx> for further information

consideration, the Committee might like to question the Welsh Government on its future plans for innovation funding such as SPP and the impact of its proposed funding review on innovation in FE more widely.

2.6 The importance of future skills requirements is an integral part of this debate. FEIs can and do play a crucial role to stimulate interest and support the development of a talent pipeline which supports the needs of industry across a range of fields. There need to be opportunities for young people to engage with research initiatives and better understand the opportunities which exist in this area.

2.7 As the participation of all colleges in the Project Zero visit showed, FEIs are ready to take a greater role in terms of research and innovation – there is a strong move towards supporting higher level skills development and higher/degree apprenticeships. Collaboration and increased involvement in both domestic and international research projects would support the development of staff and students. There would also be an opportunity for efficiencies to be realised by better promotion of opportunities between industry and colleges which have a vast network of relationships with employers.

2.8 However, it should also be noted that the ongoing uncertainty over Wales' continued participation in Erasmus+ staff and student mobility casts doubt over the viability of these networks in the future. The Committee might like to question the Government on its plans to strengthen rather than lose these networks once the UK has exited the European Union.

In a recent review into research funding, it was argued that there was a strong risk of university research and innovation interests overshadowing the research and innovation interests of private businesses. But it didn't then go on to suggest a way of stopping this happening.

3. What needs to be done to ensure businesses and their interests are not over-shadowed by universities when it comes to research and innovation funding and activity? In the academic year 2016/17 there were 241 graduate start-ups reported by Welsh universities with an estimated turnover of £56 million, this was almost double the turnover of university staff start-ups in the same year.

3.1 Again, the crucial feature is partnership working and collaboration across the HE, FE and business sectors which balances the interests of all parties. The implications for skills development need to be understood and the curriculum needs to be developed and aligned in line with research which is informed by industry.

3.2 It is also important to create a climate of adequate support while managing risk and expectation of who bears risk. Where businesses will profit from public sector

research support, consideration must be given at the outset as to how the public sector, including education, can also benefit from the developments.

3.3 It should be noted that Wales, like the rest of the UK, lacks the function and often statutory basis of networks which enhance and strengthen collaboration between education institutions, businesses and often the trade unions. Current partnership mechanisms, such as the Wales Employment and Skills Board (WESB) and the Regional Skills Partnerships (RSPs) which seek to bring together education establishments and employers do not support the development of innovation and research.

3.4 The governance and knowledge capacity of these groups, particularly the Regional Skills Partnerships have been reviewed and improvements in both governance and knowledge have been prioritised. However, they remain voluntary groups with no clear constitutional or governance basis, lacking in dedicated staff and the requisite knowledge to adequately inform strategic planning. The Committee might like to ask the Government how it thinks the existing business/skills/social partner networks could be enhanced so as to facilitate planning and bring about real change in research and innovation practice.

4. What is currently in place from universities and Welsh Government to help and support student and graduate entrepreneurs turn their ideas into successful ventures?

4.1 Again, this question does not really recognise those learners in FE who set up their own businesses or the support available to them to do so from Further Education Colleges. Current initiatives which operate in this space and support provided in an FE context include *Be the Spark*, Welsh Government Youth Entrepreneurship Funding Further and Higher Education, as well as individual college initiatives designed in this space.

4.2 To illustrate one success story from FEIs: Dafydd Jones was a 16-year-old A-level student at The College Merthyr Tydfil, who developed a business idea for an app called “Doze”. This was designed primarily for the underground in London to stop people falling asleep⁴. Between October 2016 and June 2017, key staff from the college worked closely with Dafydd, helping him with his business plan, referring him to Welsh Government initiatives like Boot Camp, where he won one of the five £1000 grants. They also supported him to attend ESpark⁵ which assisted him in developing his app and his business skills.

⁴ See <http://www.merthyr.ac.uk/content/enterprise-support-and-activities?lang=en> for further information

⁵ Details on the ESpark programme can be found here <https://www.entrepreneurial-spark.com>

4.3 Dafydd sat his first year AS qualifications and obtained his results but decided in late August/September 2017 to take a year out from his studies and applied for a place at ESpark. College staff continued supporting Dafydd and he became a recipient of TaffLab funding and support – an initiative developed by the RSA fellows in Wales⁶. In October 2017, Dafydd launched his app in the London Transport Museum. He has gone on to become a TaffLab mentor, a young ambassador for Big Ideas Wales, a fellow of the RSA and is still in ESpark working on a new business idea. He turned 18 in summer 2018.

4.4 The account above demonstrates that innovation takes place amongst the student cohort within Wales' FEIs. Importantly it highlights how the main support for these initiatives currently comes from outside of the mainstream research funding and innovation programmes.

5. Is this support systematic and consistent across Wales and is there more Welsh Government and others could do?

5.1 As above, colleges offer support to innovators and entrepreneurs across Wales, but the specifics of the offer may vary. The Welsh Government could consider how to address the issue of support for innovation entrepreneurs and their associated research needs in a post-16 context more holistically, rather than seeing this as a simply a matter for schools or universities.

5.2 ColegauCymru fully supports the ethos of greater collaboration between business and universities. However, this collaboration needs to include FEIs. FEIs have many strengths, including close relationships with business through delivering work-based learning qualifications, for instance. This relationship and understanding of business needs could help to strengthen the impact of research funding. Therefore recommendations to incentivise business and universities to work closer together should be extended to Further Education institutions.

⁶ Tafflab information can be found here <https://www.thersa.org/action-and-research/fellowship-projects/fellowship/taff-lab>

The recent review of research made recommendations to help incentivise businesses and universities to work closely together on research and innovation to take their collaborations to “greater heights”.

6. What are businesses and universities able to offer each other when they work in collaboration on research and innovation projects?

6.1 This question does not ask about the contribution made by FEIs. This is disappointing as the work on applied research which we have identified is undertaken by colleges in conjunction with local businesses. Some colleges report that the transfer of knowledge between education establishment and business is one of the main drivers in terms of the ‘offer’ and that SMEs in particular would benefit from knowledge transfer. Utilising the Further Education network situated throughout Wales, especially in rural Wales, could provide businesses with greater access to those institutions, strengthening working relationships and increasing the likelihood of success from the research.

6.2 Knowledge transfer needs to extend to also include all aspects of the education system to help inform curriculum, support staff development and inspire the future workforce. There needs to be a better mechanism to provide a platform for engagement with research activities and the associated outputs which often sit purely between the university and industry.

6.3 FEIs are often able to offer a more local base for collaboration and may be less intimidating for those businesses wishing to undertake initial conversations about research and innovation.

7. Should Welsh Government and others be doing anything differently to bring smaller businesses together with universities to collaborate on research and innovation projects? What is working well and what isn’t?

7.1 FEIs should be an integral part of the planning when it comes to collaboration on research and innovation projects with smaller businesses and universities.

7.2 The current HE-FE Collaboration project (funded by HEFCW) is an example of the post-16 sectors working together to develop capability and engagement in partnership with industry. The Committee might like to question HEFCW on its plans for the further development of this fund and the extent to which the allocation of funds via HE routes for collaboration has genuinely led to innovation and collaboration taking place⁷.

⁷ HEFCW (2018) Circular: Enhancing HE-FE collaboration in innovation and engagement activity https://www.hefcw.ac.uk/documents/publications/circulars/circulars_2018/W18%2006HE%20Enhancing%20HE-FE%20collaboration%20innovation%20and%20engagement.pdf accessed 9 October 2018

7.3 It should also be noted that HEFCW circulars and guidance on research funding (both revenue and also capital) do not always require consideration of collaboration with business or FEIs in their current form. This further strengthens our view that the approach currently intended is 'business as usual' with perhaps nominal or marginal changes.

8. What should Welsh Government and others be doing to help businesses use the knowledge gained from research activity and turn it into marketable products or improved services?

8.1 The promotion of 'successful' collaborations and the process of developing them could be an effective way of highlighting to businesses the benefits of research and innovation activity. This is especially the case where the benefit has been 'product to market' as well as the 'quality of research information'.

8.2 Post-research support is imperative to realise the potential of research outcomes. SMEs may not always have the required expertise or previous track-record to fully exploit the outcomes of the research. Welsh Government could facilitate sharing of expertise in this field to allow those businesses to understand the process, the duration and additional investment required to realise the opportunity.

Dr Rachel Bowen

Director of Policy & Development, ColegauCymru
rachel.bowen@colegaucymru.ac.uk