

Higher Education in Bangor University, Wales - 'Just the Job for the Job of Life':

A Case Study to Inform a China-UK Education-based dialogue

David J. Joyner

Executive Director, Confucius Institute at Bangor University,
BANGOR UNIVERSITY, Deiniol Rd., BANGOR, Gwynedd, Wales UK LL57 2UW
[d.joyner@bangor.ac.uk www.bangor.ac.uk/confucius-institute]

also: Visiting Professor, School of Humanities Science, **CHINA UNIVERSITY OF POLITICAL SCIENCE AND LAW**, 25 Xitucheng Road, Haidian District, BEIJING, China

and: Honorary Senior Research Fellow, School of Music, **BANGOR UNIVERSITY**, College Rd., BANGOR, Gwynedd, Wales UK LL57 2DG

I Introduction

This paper represents an expansion of an oral paper presented by the author at the Conference '*How Changes in the Human Resources Market influence Higher Education Diversity*': an UK-China Higher Education Forum, 6th June 2013, Kunming, Yunnan, China. The Conference was organised by the British Council and the National Centre for Education Development and Reform, Ministry of Education, PRC. Given the task of contributing to the important dialogue between the two countries through the lens of education, the author was exercised about how he could contribute to a debate that is already well informed by numerous statistics, policies, case studies and models. Indeed, the UK represents a wealth of globally impacting university experience over centuries, and China brings a huge and expanding Higher Education sector built on a millennia-old culture of learning.

In the shadow of these 'olympoi' (remembering Olympos, the giant who mentored Zeus in the classical Greek tradition), the author saw a solution to this conundrum, in the Confucian Analect: '*If you can acquire new knowledge while reviewing the old, you can become a teacher of others*', Analects (2004).

In the spirit of this helpful Analect, the author decided to examine his experience of nearly twenty years in Bangor University (the *old*) and to try to analyse the key elements of education in that university, noting the specifics of its geographical and cultural environment. Thus he seeks to bring *new* insights to this international debate, the arena of the '*others*'. We are proposing that education should prepare its beneficiaries for the '*job of life*' (as in our title) and we wish to highlight from our own situation some important aspects of the approach to achieving this high goal. It is hoped that the insights gained will be useful in catalysing debate and cooperation between our peoples and their educational systems.

II On Education and Diversity

The approach we propose to take in order to address the question of *'How Changes in the Human Resources Market influence Higher Education Diversity'* is to examine the baseline situation locally, that is, to consider the existing diversity in Bangor University. What has come down to us from its more than 125 years of history, and how do the elements of engagement with outside bodies contribute materially to the culture, broadly framed, which defines the institution? We then consider a number of developments in the university in recent years that are designed to strengthen the institution, meanwhile increasing diversity. Finally, we examine the issue of diversity as a tool for cultural development and exchange within a university context.

III Background to Wales and Bangor University

Wales sits at the western edge of the island of Great Britain (GB), which is, of course, itself at the western end of the European Union, and located in the north Atlantic between Ireland and the European Continent. Whatever the unifying elements of 'Britishness', fostered over the centuries since, for example, Wales merged with its larger neighbour, England, the four countries of the United Kingdom retain notable if complex individual national identities. Wales is a country of mountains and coastline, a beautiful environment with relatively low population except in northern and southern corridors where strong economic ties are maintained with the English conurbations to the east. (Figure 1).

Historical primary industries of coal mining, slate quarrying, and steel production, have given way over recent decades to the development of small private enterprises, service industries, knowledge based businesses and public sector jobs in local, regional and national Government. Furthermore, farming and tourism remain the corner-stones of the rural economy. Welsh GDP is overall around 5% of that of the whole UK.

Bangor, on the Irish Sea coast amidst the high mountains in the far north West corner of Wales, is at the heart of the Celtic heritage of the region, where a majority of the population are native speakers of the ancient but contemporary and vibrant Welsh language. Its nearest city is Dublin in Ireland!

Bangor University, in the north west of Wales, was established in 1884. To a significant degree the University is the result of a widespread popular ambition to bring higher education to the region. An 1883 letter of support was sent to the Registrar of the nascent University College of North Wales (UCNW) by a leader of local quarrymen, hard working men in one of the largest and most gruelling industrial undertakings of the Victorian age. This missive expresses a sentiment which has a timeless appeal and displays a global vision, belying the very limited opportunities for personal advancement enjoyed by the Welsh quarrymen themselves:

'The quarrymen of Cae-braich-y-cafn () will show the world that they have an opinion and put a great price on such an important thing as education'* (Roberts, 1883).

(*) name of the local slate quarry, one of largest in the world at the time.

This is all the more potent when we consider that these working men and their families contributed sacrificially to a major building project, resulting in the opening in 1911 of a classical edifice proudly echoing the corridors of Oxbridge. As Professor Lewis Jones expressed it, in an address at the close of the 1904 academic session:

'The working classes were contributing their pence and their shillings and the middle classes their pounds for the cause of education'. North Wales Chronicle (1904a).

The early flavour of education in UCNW is reflected by the address of Sir Arthur Rucker, Principal of the University of London (whose degrees were awarded at Bangor until the University of Wales was established in 1893) in the same ceremony at the closing of the 1904 academic session :

'One point, I think, is specially characteristic of yourselves, namely, that you have valued education not merely as a means of making a man (sic) successful in life, but on account of a real love and desire for cultivation, and an earnest determination to be in contact with the great literatures of the past.'
(North Wales Chronicle, 1904b).

The flow of the university's fortunes and exigencies over the last century or so has been well mapped out for what is now known as Bangor University by the current Registrar, Roberts (2010). Without elaborating its history further, we may summarise the essence of Bangor's Higher Education Institution as:

'an international university for the region' (of north Wales).

The University is broadly based, providing education at undergraduate and postgraduate levels and with a strong research tradition in arts and humanities, business, law, education, in the social-, natural-, behavioural-, physical- and health-sciences and in electronic engineering. Figure 2 shows a view of part of the university estate with a perspective view of the original building and a major new development linking the themes of arts and innovation.



Figure 1
A view of Wales: the outstanding natural environment with mountains and sea, showing the Menai Bridge near Bangor University.



Figure 2
Bangor University, showing the classical 1911 building 'Top College' (at right of picture) and the Arts and Innovation Centre (bottom and left of picture) under construction at the time of writing (2014): an artist's impression.

IV An Approach to Education

In an *elysian* world it might be appealing to imagine that the key ingredients of a university education are independent of the specialist subject chosen, in the spirit of James Bryant Conant's quip (popularized due to being quoted by Albert Einstein): *'Education is what is left after all that has been learnt is forgotten'*, Conant (1910); we are referring to analytical thinking, problem solving and the spirit of enquiry etc. Of course, in the real world, whether in Wales, Europe, China or anywhere else, decisions are required by a university on what its portfolio of subject provision is to be, and by the student on what subject(s) s(he) will choose. Much has been written on the pressures upon universities in the developed world to mould their academic provision in various ways. For example, Barnes and Barr (1988a) have noted that *'Perpetual revisionism is the academic stock in trade'*. Certainly, when this is driven by internal ambition it is a relatively comfortable scenario for academics, although there are now many external drivers which are often perceived by said academics less positively. These have been well described by Baker and Brown (2007):

'All this is taking place in a progressively more austere financial climate and against a backdrop of regulation, control and 'quality assurance', the measurement of success or failure against 'metrics', benchmarks of economic viability and a kaleidoscope of shifting objectives originating from government, the commercial sector, the mass media and public opinion.'

This highlights for a Chinese audience (and reminds all of us) of the complexities of the current Western education system, and the need for caution when we explain that our university (and many others in the West) is an *independent* charitable organisation. There are clearly many forces pulling in various, and probably opposing, directions.

Certainly, the above drivers have provided a myriad of measures whereby prospective students, their backers and others can interrogate a potential university. Bangor University's cohort of 325 in 1904 (North Wales Chronicle 1904a) has swollen to over 10,000 and now comprises students from many countries with 650 teaching staff and 324 undergraduate programmes plus 125 postgraduate programmes. The language of the marketplace now becomes the *lingua franca* and the 'demands of the market' are analysed. In the case of Bangor University, this is focussed upon [Wu (2011)]:

- the need *to adapt or die* to globalisation which is set to continue;
- new opportunities brought by new markets;
- the increased demand for borderless education;
- students' more sophisticated expectations from teaching and learning;
- students universally requiring a 'richer student experience'.

In the light of this, there are, in our view, clear benefits in having a 'classical' university based on a broad subject range from the arts to science and engineering, in order to engage broadly or to 'take advantage of these market opportunities' which represent in truth different markets, ebbing and flowing at

various geographic and socio-economic scales through time. Behind the response to the above demands and opportunities rests an overall institutional culture, and no doubt a number of sub-cultures, which help or hinder development. A research question of interest for future study is certainly: *'how do these cultures interact and affect each other?'*

We propose that this culture or cultures is (are) defined significantly by the interactions and relationships within and beyond (outwith) the institution. This has been analysed in various ways and it is useful to use such frameworks as a 'lens' through which to view the work of a university. In this way, one can attempt to link its many activities and collaborations in a coherent conceptual framework, which provides an analysis that is often unfamiliar but highly valuable to provide new insights to the debate under discussion.

V Mapping a University's Wider Role

We sketch here three approaches published in recent literature, offering useful and complementary insights into the disparate activities in the university, which we are linking to its cultural *ambience* and which are therefore useful to help to define it. Without enabling methodologies such as the models below, it is rare to consider a university in such a holistic manner. The three approaches are:

(i) The 'Three Missions'

This approach maps the wide range of university activities into 'three missions' – Etzkowitz (2004) - whereby it interacts with various parts of society, at local, regional, national and international scales. There are: teaching and learning; research, and actions to support economy and society.

This is a useful, simple categorization that has been deeply embedded in government policy within the UK and Europe. However, after several decades, it is still not universally appreciated; as an illustration, the author recently attended a presentation by a senior engineering academic in a northern English university open day in which the three missions were described as *teaching, doing research and teaching others to do research!*

This comment highlights the jaundiced view of some towards the 'third mission' (otherwise known in the UK as *'third strand'* or *'third leg'*) as being less than the 'heartland' university roles of teaching and research. However, experience in Bangor University over at least two decades has shown that positive engagement in all three missions can form a *virtual circle* of achievement with mutually reinforcing benefits [Joyner and Thomas (2014)]. By listing only three missions, it is easy to emphasise that the wider or 'softer' aspects of a university's engagement, embodied in the third mission, are important – indeed, policy and practice can be put in place to emphasise this importance and to monitor and encourage *third mission* activity.

(ii) The Four-fold view of a University's role

This model, presented by Cosh, Hughes and Lester (2006), Figure 3 below, offers an interesting description of four overall university roles. Apart from the obvious teaching and research, these include:

'problem solving' - which describes many areas in which the expertise and research of its staff and its resources and facilities are used to support and collaborate with outside bodies; and

'public space' which interestingly links conceptually the *physical and intellectual spaces* of a university, thus showing its role as a catalyst for development. We would argue that in a medium sized university in a small community such as the situation of Bangor in north Wales, this can be one of the defining aspects of the role of a university. This was especially highlighted locally when the global recession of 2008 hit all businesses and communities in the north Wales region, which appealed widely to Bangor University to take a lead in developing initiatives to support and encourage a positive response at a time of deep crisis.

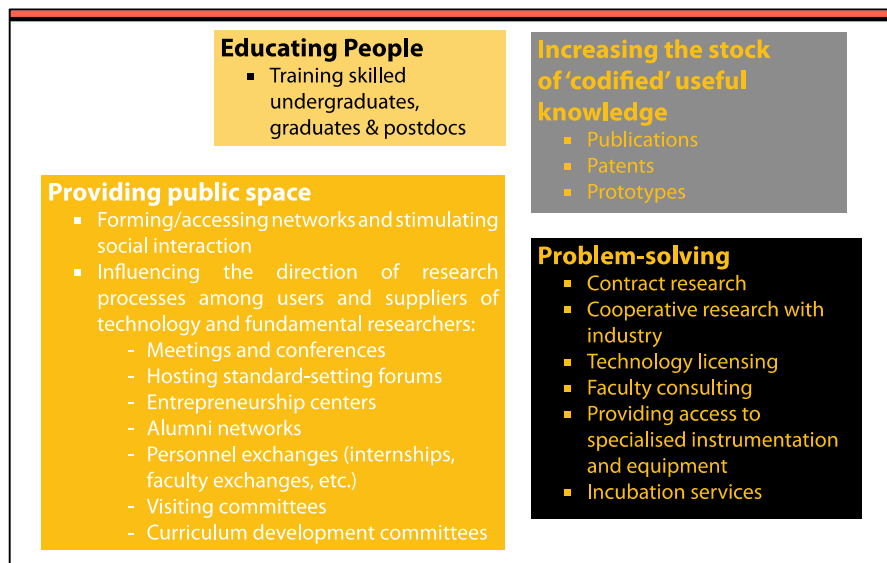


Figure 3: University roles in contributing to economy and society; Source: Cosh, Hughes and Lester (2006).

(iii) The Knowledge Exchange Model

This recent approach by Moore, Ulrichsen and Hughes (2010), Figure 4 below, maps the activities of a university (at left of diagram) with the various categories of potential users at right. Interestingly, only two key activities are identified.

Here, every engagement between the university, via its activities, and the users, is seen as a knowledge transfer activity and is engineered through a knowledge transfer mechanism. This is most useful to emphasise:

- (i) that the skill taken by a graduate student into the world through the *'job of life'* (the lower part of the central column),
- (ii) academic publications (at the top of the central column) and
- (iii) commercial developments, business collaborations and training programmes: those aspects more normally thought of as *knowledge exchange*,

are all in essence part of the same holistic mechanism.

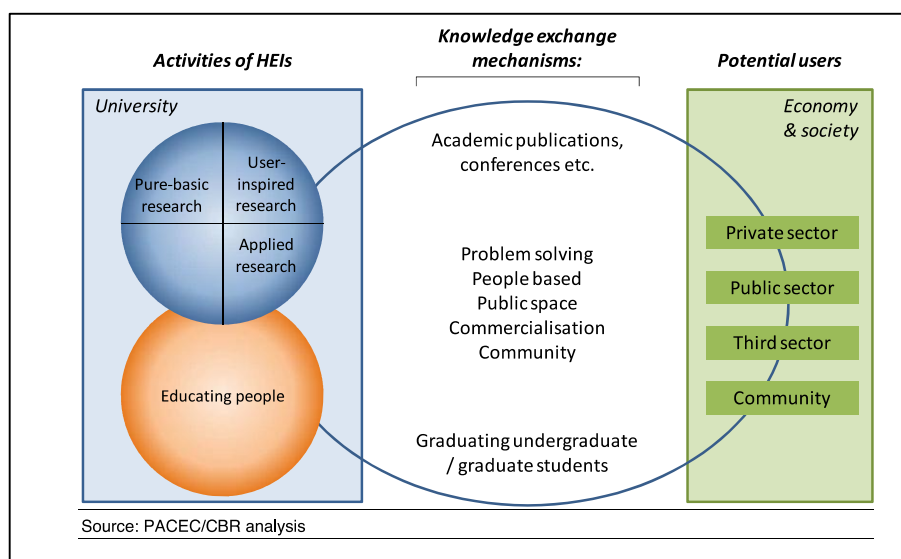


Figure 4: The roles of Higher Educational Institutions in contributing to economic and social development: Knowledge Exchange Mechanisms. Source: Moore, Ulrichsen and Hughes (2010)

VI On Coloured Shadows

The wide ranging interactions of a university with various communities and groups which are mapped in the three models outlined in section V above are interpreted to interested parties variously as:

- demonstrating entrepreneurship, enterprise, innovation and commercialisation,
- producing outputs that show the relevance of the academy to economy and society, or
- reflecting the impact of a university's research.

However, for the present topic we wish to see these activities and their results as contributing to the institutional culture with impact therefore on education itself, through building substantial links and collaborations, building bridges, bringing groups into the academy and taking staff and students out.

We wish to introduce here the idiom of *coloured shadows*. We imagine the shadows present in an institution as being a picture of the essence of the establishment, ever-present, built up over its history, casting an influence but generally not obvious, and barely, if ever, noticed. In this idiom, the concept of a shadow is entirely positive - *which unexpectedly fills an emptiness*, unlike its frequent perception in popular culture - *which is only where light is not*. We now extend this to the idea of *coloured shadows*, known for hundreds of years - see the eighteenth century experiments of Thompson (1794).

We propose to use these as an idiom for many different experiences and influences which leave an imprint that affects the university community. The different colours represent the influence of a myriad of engagements; maybe, the different colours are playing and interacting in different ways in space and time. The idiom is rich and allows for many ideas to flourish on how the 'third mission' actions and outputs have effect and relevance to the educational *ambience* through building a corporate or community culture in the university.

Bangor University has a long history of wide impact on society and the background to its story, to be referenced in a future publication - Joyner and Thomas (2014) - can be traced to a number of key aspects. Referring to section III above, one can see that the specific historical background of Bangor, and its key position in the region and have no doubt facilitated its efforts and encouraged success in 'third mission' engagement as has the availability of public funding to support projects. Another important aspect is having Senior Management with business experience (and interest).

After enthusiastically adopting such a broad-ranging role, Bangor University has acted as a collaborator and catalyst for development of every type of organisations from not-for-profit businesses, Small and Medium Sized Enterprises (SMEs), micro-SMES (businesses with less than 10 employees), corporate businesses and the public sector, engaging many of its academic disciplines.

This may be called an 'ecosystem' approach, which we suggest is well worth considering by many Chinese universities who find themselves in key regional roles and wish to be a driver for economic and societal growth. It will be interesting in future work to project similar journeys for other universities with the same set of ambitions, comparing results and charting the *play of coloured shadows*, using this and other examples as a case study.

In our idiom, the coloured shadows indicate more specifically a Bangor University with a history of a number of innovations that can instruct and interest partners. We briefly list here some of the highlights; for further reference, the impact of Welsh research has recently been analysed by Elsevier

(2013), it is annually reported in the Higher Education Business and Community Interaction Survey (HEBCIS, *q.v.*) and has recently been presented to the UK Parliament, Welsh Affairs Committee (2011):

- one of the leaders in the UK in the national *Knowledge Transfer Partnership (KTP)* programme (see www.ktponline.org.uk). KTP is a collaborative business development project funded jointly by Government or a Research Council and a business partner.
- first KTP project approved in the UK – 1998 - using university arts expertise (School of Music) in partnership with Welsh music and media company Sain Records (www.sainwales.com). Upon completion, this project beat hundreds of competitors to win the top UK prize in 2000 for *The Best Application of Technology and Knowledge*.
- multiple *repeat-business* KTP collaborations established in the arts, sciences and engineering (e.g. notably with Liverpool Philharmonic Society and Bangor University School of Music).
- First KTP projects in the UK in the following areas - tourism (Trearddur Bay Hotel), theology (Centre for World Revival) and with a Local Government (Conway Centre).
- An unusually strong track record, for a research intensive university, of collaboration with SMEs and micro-SMEs across a wide range of disciplines from the sciences to arts and humanities.

The extent to which these aspects of engagement are fulfilled, the proportion of time, effort and resources taken up by each activity, and the resulting success of each one, varies enormously from university to university. We are not in a position in this paper to offer any formula or prescription for deciding how the three missions will be played out - every university will be in a different position.

However, this case study has shown how a medium sized university:

- with a key role in its region can engage very widely across a broad range of activities,
- can innovate effectively in disciplines which are traditionally seen as less applicable outside the academy,
- and can thus create a myriad of *coloured shadows* to enrich successive generations of its students, staff and alumni and catalyse ongoing interactions.

VII Education for the 'Job of Life': a *Five Element Model*

We have now established some of the elements that set the culture of a university and leave their marks, in the idiom we have introduced, as '*coloured shadows*'. Now we need to address the issue of how to build upon this foundation with a structure and programmes to enable students and the wide range of university stakeholders to capitalise on the opportunities offered by the university, without which it is of little value to these groups.

We propose to map this range of actions in a Five Element Model, Figure 5 below, reflecting the holistic definition of many issues in classical Chinese culture as five 'elements'. The five elements of the classical world were wood, fire, earth, metal and water, usually presented in that order. In applications of the five elements in various spheres, the nature of the elements are mapped against parameters of the issue in hand. This is an appealing idiom and one which is useful to employ in the current discussion, because classically the five describe completely an issue and the relationship between them - their interactions – is important, as well as the nature of each one.



Figure 5: Setting the conditions to support the 'Job of Life': The Five Element Model reflecting a holistic approach, as in classical Chinese culture.

Our proposed five elements for establishing conditions to provide an excellent preparation for 'the job of life' at Bangor University are (Figure 5 below):

- **WOOD: Broadly-based academic excellence.**
- **FIRE: An international university for the region.**
- **EARTH: A minority language enriches all.**
- **METAL: External links and experiences.**
- **WATER: The Confucius Institute at Bangor University**

WOOD: Broadly-based academic excellence

Wood – the universal material of bridge-building in ancient China - illustrates the building block of a university which is the basis of all engagement – that is, the expertise of academic and other staff, and their publically reported research output in all its guises. The broad range of expertise at a university such as Bangor is especially valuable in providing the opportunity to bring experts together who represent totally different approaches to problems , in order to break down traditional ways of thinking which can restrict and stifle innovation and creativity. Clearly, not all institutions can enjoy such a happy juxtaposition of the sciences, engineering, the arts and humanities, education and business. But, beyond our emphasis on the great benefit of their co-existence, it is instructive to reflect how this mix, where present, can be retained and developed in a world of funding restrictions, pressures such as political prioritisation, and fluid and unpredictable student 'markets'.

Bangor University has, since 2010, reaffirmed what it considers should be *The Modern 'Idea of a University'*, as outlined in a lecture given by the current Vice-Chancellor, J.G. Hughes, see Hughes (2011):

- (i) University Schools which are able to respond to current market trends in the subject choice of undergraduates, will expand to satisfy the potential – most notably Psychology.
- (ii) Joint degrees will be established – for example a new LL.B. course in Law and Contemporary Chinese Studies.
- (iii) A traditional academic breadth will be maintained – to include Music, Modern Languages and Social Sciences.
- (iv) A new School of Philosophy and Religion has been opened.
- (v) Mathematics – considered an arts subject, will be re-introduced.
- (vi) Design thinking will be introduced widely across all disciplines.

FIRE: An international university for the region

Fire – which has such energy and intensity – represents the enlivening effect of bringing people from different nations together in a community. This is enriched by a series of actions:

- (i) every student is considered an international student.
- (ii) programmes will enable students to study, research and have social interaction with students from other countries through cultural and sporting activities.
- (iii) language learning will be widely available, including Mandarin.
- (iv) the aim will thus be to build personal capacity to act as good citizens in order to be successful in an inter-connected world.

EARTH: A minority language enriches all

Earth is surely the unifying element – all peoples share in common our planet earth. Language is a rich resource of human diversity and Bangor University shows the interesting effect of having two languages in everyday use – English and Welsh. To members of the community from outside, this has the unexpected benefit that it is common across the population to hear different languages spoken so there is no awkwardness for any speakers of other languages. Thus, although Welsh, a minority language, is not known by most from outside Wales, in this sense it enriches all.

METAL: External links and experiences

Metal – such a strong material, that provides secure support and holds things tightly – gives the idea of linking internal expertise with outside opportunities, thus binding the academy and outside partners together. Programmes link students with a range of bodies include:

- *going out* through placements, internships and taking part in knowledge exchange projects.
- *bringing others in* – as guest lecturers, through attending events and as members of subject Advisory Boards.

These links are formalised for students through the *Bangor Employability Award* (<http://www.bangor.ac.uk/employability/>), an innovative and comprehensive programme which offers accredited opportunities to students to extend and apply their skills and interests through a set of ‘bankable’ activities including:

- (i) a core programme designed to improve students’ career management skills,
- (ii) many self-selected activities such as volunteering, taking part in clubs and societies, work experience, part-time work and language learning.

WATER: The Confucius Institute at Bangor University

Water is the essential element for life – and it flows freely to bring life and verdency. This is an idiom for a ten year old initiative, the Confucius Institutes (CI) movement which [Hanban (2012)] ‘promote educational exchange and co-operation between China and the world, utilize CIs as a comprehensive platform for cultural exchange.....’

Established at Bangor University in 2013 in partnership with the China University of Political Science and Law, Beijing (www.cupl.edu.cn), the local CI offers a unique opportunity to bring the two countries of China and UK (the focus of the present collaboration), together through a wide range of practical and intellectual links. The learning engendered and the international network of over 400 Institutes worldwide can inform the interchange with many aspects of other global and even more local cultures. This can be seen as a ‘development laboratory’ – Singh, Lele and Martohardjono (2005) and a basis for study of intercultural communication – Asante and Gudyjunst (1989).

VIII Conclusions

In this paper, we have explored how a university can build, through its history and its geographical and socio-economic positioning, a resource base which can be seen to exert influence on its community of staff and students. We styled this concept as ‘*coloured shadows*’ that represent collectively a specific, unique culture for an institution. This may be the ‘beating heart’ of the university – certainly, it is a resource of enormous, probably largely unanalysed, value. We have taken advantage of a substantial literature describing and probing the impact and engagement of a university – and have tried to take the widest perspective in looking at how these issues can create our imagined background of coloured shadows. Furthermore, we have sought to investigate the university’s ambition to prepare its beneficiaries for the ‘job of life’. By this we are obliquely referring to the trend for evaluation of a university based on the employability potential and achievement of its graduates. We then extended this idea to what we believe is the true, ultimate aim of education – to be prepared in the widest sense, for the job of life. In order to take advantage of what we analysed to be realised as these coloured shadows, we mapped a high level overview of the Bangor University Case Study, as a ‘five element’ model.

In returning at the end of this paper to our desire to contribute constructively to the present important dialogue between China and the UK through the lens of education, how can this analysis be used? We suggest that Bangor University offers a strong indicator of how a medium sized university, in an important position due either to its regional or local status, or to a specific expertise base, or both, can bring its impacting activities with many partner groups and stakeholders to the arena of its educational culture.

In a world where there seems to be an increasing *zeitgeist* in which the 'other'; is often held in suspicion, surely the above shows in a positive way the benefit of diversity based on the range of academic specialties; on specifically welcoming an international cohort; on building partnership broadly; and on exploring the nature of the diversity and proactively ensuring that it is brought to bear on educational provision.

We have sought in this paper to draw examples and insights from both Western and Chinese culture and history. In our view, these form a single resource base for exploring ideas in a new way – building on Morley and Robins' (1995) statement that 'difference is a resource'. We hope that our self-analysis of Bangor University as a Case Study for engagement and education can encourage others to develop their own models based on the intersection of these themes.

To conclude with a reference to the Chinese Philosopher Lao Zi , '*He who knows others in knowledgeable, He who knows himself is wise*', Lao Zi (2008).

Many questions come to mind: Could the key to the present debate be that the *job of life* will be well set if we build Lao Zi's double knowledge, this ascent based on all the experiences and influences to which we have referred? Can we understand better the '*hidden face of our identity*' – Morley and Robins (1995), or investigate aspects of a '*tacit dimension*', Polanyi (1966) - as individuals, members of various groups and collectively as part of such an exciting community as an outwardly-facing university?

We have only begun here to explore the implications of linking these concepts together but we suggest that this activity should be ongoing to inform the education partnership between China, the UK/Wales and their exciting continuing dialogue and debate.

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