

Scotland's Creative Economy: the Role of Universities

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Foreword

Professor Seona Reid, Director, Glasgow School of Art

Scotland is a vibrant, creative nation which has the raw materials for global success. Its creative industries sector is strong and proving resilient in the face of recession. Scotland also has world-leading universities which feed the industry with talent and provide a rich resource of research and innovation. This report demonstrates the many and varied connections between Scotland's creative industries and its universities. However, the report is not about patting ourselves on the back for achievements already made. Nor should we rest on our laurels. The report is a call to recognise that more can still be done to build ever-closer links between industry and education, to address challenges and overcome barriers in order to shape an even stronger, internationally competitive, creative industries sector.

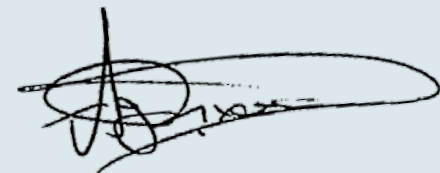
This report comes at an important juncture for Scotland. It comes early in the life of Creative Scotland, our new body charged with leadership in co-ordinating support for the creative industries through Scotland's Creative Industries Partnership. For universities, it comes at a time when funding models, the form, structure and even the very purpose of a university is being re-examined. It comes as the economic climate hits Scotland's public finances, driving difficult spending decisions but also creating opportunities to reframe and reinvent, for Scotland to chart its own course and shape its own success.

The size of Scotland ensures that there is significant scope for its creative businesses, universities and other partners to come together to identify practical ways in which the creative industries sector can continue to grow to the benefit of Scotland's economy and society.

Andrew Dixon, Chief Executive, Creative Scotland

This timely study captures the vital role of higher education in growing the creative industries in Scotland and I welcome the call to action to work together to capitalise on our nation's creativity. Creative Scotland's remit to work across the arts, culture, film, TV and the creative industries places us in a strong position to work with partners to support a new generation of talent. We have been given the role of coordinating the leadership of support for the creative industries through Scotland's Creative Industries Partnership (SCIP) and we will be working closely with universities, enterprise agencies, local and national government to ensure our investment decisions reflect opportunities for economic growth, business expansion and job creation as well as creative excellence for its own sake.

Universities play a major role in the creative economy in identifying and growing talent and skills as well as providing a steady flow of workers into the creative industries. In particular we would like to work together to support a nation-wide programme of incubation spaces for artists and to address skills and other gaps in the ladder of opportunity for creative people. Our ambition is for Scotland to be viewed as a primary place of choice to live and work as an artist and to be recognised as one of the world's most creative nations. We look forward to working with our partners to make it happen.



Acknowledgements

‘Scotland has always been a creative nation and Scotland’s universities have always been at the heart of it.’

This report is a companion to *Creating Prosperity*

(Universities UK, 2010) a larger, UK-wide study into the role and contribution of higher education to the growth of the creative economy in the UK. This report draws heavily on the key findings, recommendations and underpinning research in Universities UK’s report and we are grateful to Universities UK for granting us permission to reproduce this material.

Creating Prosperity was published by Universities UK in partnership with Skillset, Research Councils UK, Guild HE, the United Kingdom Arts and Design Institutions Association (ukadia) and the Council for Higher Education in Art and Design (CHEAD). The underpinning research was conducted during 2010 by independent research consultancy EKOS.

The study was extensive and included a thorough literature review, interviews with a wide range of public sector, industry and higher education stakeholders and case studies examining the different ways in which universities are engaging with the creative economy. The emerging findings were then debated at a series of six focus group discussions held across the UK (including one in Glasgow) with invited audiences comprising representatives from higher education, business and the public sector.

Both higher education and the creative industries in Scotland clearly operate within a UK and international context, and Scotland was strongly represented throughout the UK research. However, the environment in which higher education operates is different north and south of the border, and the purpose of this companion report is both to reflect the findings of the UK study as they relate to Scotland, and to highlight those elements of Scotland’s contribution that are distinctive.

As with *Creating Prosperity* this document demonstrates the multifaceted ways in which Scotland’s universities have contributed to the success of our creative industries. It also lays down a series of challenges to the university sector, the creative industries and the Government about how best to work together to ensure that higher education continues to make a crucial contribution to the ongoing growth of our creative economy.



Richard Wright No Title Detail 2. Richard Wright’s gold-leaf work won the 2009 Turner Prize.

© Richard Wright Photo by Mike Bruce/Courtesy of Gagolian Gallery

Scotland's Creative Industries

Scotland has always been a creative nation and Scotland's universities have always been at the heart of it. From the world-leading talent emerging from our art schools including Turner Prize winners Simon Starling and Richard Wright, to acclaimed stars of stage, screen and airwaves; Alan Cumming, James McAvoy and Edith Bowman to the literary success of novelist Ian Rankin and Scotland's Makar, Liz Lochhead. From the Scottish graduate that created Lemmings and so first put Dundee on the map for computer games to the art graduate whose fashion designs were chosen and worn by Lady Gaga, Scottish creativity has long punched far above its weight on the global stage.

This success has also been recognised by the Scottish Government. The Government Economic Strategy of 2007 identifies the creative industries as one of the key sectors that will drive future growth in the Scottish economy, and the importance of the creative industries to the Scottish economy is well documented.

According to the latest data, 64,660 people were employed in the creative industries in Scotland, an increase of 11 per cent on 2003. Areas in which growth was particularly strong include music and the visual and performing arts, architecture and software, computer games and electronic publishing.

Total turnover in the sector in 2007 was £5.2 billion, with gross value added (GVA) around £2.4 billion. This represents growth (in real terms) of 66 per cent in turnover and 54 per cent in GVA between 1998 and 2007, and compares with growth of 73 per cent in creative industries GVA at the UK level. Similarly, Scotland's creative industries exports increased by 36 per cent, in real terms, between 2002 and 2007 to a total value in excess of £3 billion. This accounts for a fifth of the UK's total exports in 2007, at a value of £16.6 billion (Scottish Government, 2009).

Although these figures predate the economic recession, more recent Scottish Government data also show that while output in the creative industries fell 0.9 per cent in the first quarter of 2009, this was at a much lower rate than the economy as a whole (2.4 per cent), indicating the resilience of the sector.

This pattern of consistently strong growth reflects increasing demand for creative content in global markets. In particular, the rapid development and diffusion of digital technologies is also creating new opportunities for the creative industries and reducing barriers to entry in markets that did not exist only a few years ago.

In addition to this direct economic contribution, the creative industries are also considered important by virtue of their wider social and economic impacts:

- the creative industries are inherently knowledge intensive industries whose value is vested in intangible assets. As such they are a critical component of the wider knowledge economy;
- they operate at the intersection between creativity and technology, supporting the transition to a digital economy;
- creativity has a crucial role to play in driving innovation across the whole economy; and
- the creative (and cultural) industries both enrich our lives and make Scotland more appealing to visitors and businesses.

The creative sector in Scotland is characterised by small Scottish owned businesses. In 2008, there were 8,485 registered enterprises in the creative industries in Scotland, five per cent of all registered businesses in Scotland. Of these, 97 per cent have fewer than 50 employees.

The creative industries are also well-educated, employing a higher proportion of graduates than the economy as a whole. They are also naturally multidisciplinary, combining creative, technological and business skills in fast moving and competitive global markets. As such, they operate very much at the intersection of science and creativity, challenging the notion that clinical disciplines, science, technology, engineering and maths (STEMM) and creativity should be considered different worlds.

*'...the creative industries
are one of the key sectors
that will drive future growth
in the Scottish economy.'*

Scottish Government Economic Strategy

The Policy Context

The creative industries have long been a feature of Scottish economic policy, dating back to the publication by Scottish Enterprise in 2000 of *Creating Success*, a national creative industries strategy. They were prioritised as a key sector of the Scottish economy by the Scottish Government in 2007 and in 2010, the Scottish Government created a new agency, charged with co-ordinating public sector partners' development activity in this area. Creative Scotland brings together the functions of the Scottish Arts Council and Scottish Screen, and has an expanded remit spanning the arts, screen and creative industries. Its role in supporting the economic growth of the creative industries will be a significant point of departure from the work of its predecessors.

Creative Scotland is one of several members of Scotland's Creative Industries Partnership (SCIP) which was formed in 2009 to bring together the Scottish Government, local government, Scottish Enterprise and Highlands and Islands Enterprise to ensure the public sector is joined up and complementary in its approach to developing and nurturing the creative industries. SCIP starts with the ambition to ensure that Scotland is one of the world's most creative nations, where the arts and the creative industries are supported and celebrated and their economic contribution fully captured.

In contrast to creative industries policy at UK level, Scotland has arguably paid more attention to the role of higher education in supporting the growth of the sector. While UK policy has tended to portray higher education as somehow failing to produce the right kinds of skills needed in the creative economy, Scottish policy has been quicker to identify the importance of higher education research as well as teaching to the future success of the creative industries. Most recently, *Digital Inspirations*, a strategy for Scotland's digital media industries gave explicit recognition of the crucial role of higher education in supporting innovation and growth in this sector.

As far as higher education policy is concerned, the *New Horizons* report, published in 2008 by the Scottish Government, Scottish Funding Council and Universities Scotland, examined the role of universities in Scotland's long-term future and led to some restructuring of higher education funding in Scotland.

Among the challenges identified in *New Horizons*, was the need to demonstrate alignment between the use of public funding and the Scottish Government's Purpose of sustainable economic growth

and its economic and skills strategies. As the creative industries are one of the Government's key sectors, this is an implicit, if not explicit, call for universities to engage with the sector. The Government also challenged universities to embed a culture of engagement between themselves and Scottish small and medium sized enterprises (SMEs). Uniquely, the report also recognised universities as a sector of Scotland's economy in its own right. This places Scotland's universities on an equal footing with the six other priority industry sectors. More recently, the Scottish Government's Green Paper on higher education funding, *Building a Smarter Future*, recognised universities as the "mainstay" of Scotland's knowledge economy.

The same themes of ensuring university provision supports sector needs and that there is collaboration with businesses to deliver innovation and growth are picked up in the Science for Scotland strategy and the *Innovation Framework*. In common with the UK's *Innovation Nation*, the Scottish *Innovation Framework* advocates a broader understanding of innovation, along the lines of systems-based thinking, and emphasises the critical role of higher education in the Scottish innovation system.

A main focus of the *Skills for Scotland* strategy is capitalising on higher level skills and providing a steady flow of workers skilled in key industries, including creative industries. Again, universities are charged with competing on a global basis in research, development and teaching, "*serving as a key driver in Scotland's economic and enterprise agenda*".

The policy context in Scotland has therefore been broadly supportive of higher education's role in supporting the growth of the creative economy. However this policy context is subject to ongoing change with growing pressures on public finance and the direct implications this has for the future of higher education funding in Scotland. The Scottish Government's Green Paper, *Building a Smarter Future* launched in late 2010, looks to find a sustainable Scottish solution to higher education funding to keep Scotland's universities competitive within the UK and an international context. The Green Paper presents a range of policy options with both direct and indirect consequences for learning and teaching and research and knowledge exchange as delivered by universities.

Scotland's examination of a long-term sustainable funding solution follows Lord Browne of Madingley's *Independent Review of Higher Education Funding and Student Finance in England* which reported in late in 2010. The Browne Review proposed increasing the level

‘...a key driver in Scotland’s economic and enterprise agenda.’

Skills for Scotland

of tuition fees paid by graduates to lessen the public investment made in teaching costs of higher education. Importantly, the Browne Review and the announcements in the subsequent UK Comprehensive Spending Review have significantly reduced public funding for subjects other than clinical training and science and technology from 2012 onwards. This is a worrying precedent. If Scotland was to follow England’s lead in crudely prioritising investment in STEMM subjects, the threat to the future success of Scotland’s creative industries, and to our wider economic success, would be considerable.

In the pages that follow, we review the role and contribution of higher education to the creative economy in Scotland focussing on two broad issues:

- **skills, entrepreneurship and continuing professional development; and**
- **research, innovation and clusters**

Each section highlights key findings as emerged from the research undertaken by EKOS across the UK. It then unpacks some of the policy issues, challenges and opportunities experienced by Scotland’s universities as relevant to the creative industries. Case studies are presented to illustrate the varied contributions that universities make; to demonstrate good practice but also to shine a light on areas that could benefit from further development. Each section concludes with a list of recommendations aimed at institutions themselves, the industry and Government as well as public bodies.

*‘the threat to the future success of Scotland’s
creative industries, and to our wider
economic success, would be considerable.’*



A Printmaking workshop, Illustration Studio, Visual Communication, The Glasgow School of Art

Skills, entrepreneurship and continuing professional development

Key Findings:

- **Universities are the primary source of talent for the creative economy;**
- **Employability and entrepreneurship are growing areas of focus for higher education; and**
- **Universities can be an important provider of continuing professional development for the creative industries**

Universities are the primary source of talent for the creative economy

The creative industries thrive on talent. Universities UK's report *Creating Prosperity* found the creative industries to be highly dependent on a well-educated workforce. On average 60 per cent of those working in the creative industries are graduates compared to around 31 per cent of the UK's workforce as a whole. Universities are a rich source of that talent. There were 26,875 students studying towards creative disciplines at undergraduate and postgraduate level in Scotland's universities in 2008/09 which accounts for 12.5 per cent of the total student population.

There is often a view that creative talent is simply innate. This is not the case – talent must be nurtured and developed, and this is what the process of higher education achieves. It is sometimes argued that higher education is somehow failing to meet the needs of industry in terms of the skilled people that it produces. This is not helped by the perception of a divide between academic and vocational higher education in Scotland. Universities do exist to provide a broad, enquiry-based education and to equip graduates with attributes applicable to many career paths. However, this does not preclude universities from also having a focus on professional skills nor from having close links with industry and industry bodies.

Evidence shows that Scotland's universities collaborate directly with creative companies and industry bodies in the design and development of courses at undergraduate and postgraduate level. A recent survey into university and business interaction found that in terms of industry input into course development, a significant proportion of Scottish universities worked with the employer-led Sector Skills Councils related to the creative industries. Sixty-one per cent of the 18 Scottish universities surveyed were found to work

with Creative and Cultural Skills, which focuses on craft, cultural heritage, design, literature, music, performing, and visual arts as part of their institutional strategy (HE-BCI, 2009). Nearly a third of Scottish HEIs also work with Skillset, which focuses on creative media including animation, computer games, interactive media and film. This is testament to the close relationship between higher education institutions and the creative industry sector in Scotland.

Examples such as the University of Abertay Dundee's position as holder of three industry accreditations from Skillset Sector Skills Council, Glasgow Caledonian University's partnership with production company Shed Media and Edinburgh Napier University's role in Screen Academy Scotland, a Skillset Film and Media Academy, all demonstrate the ways in which universities work to produce graduates that meet the needs and expectations of creative industry employers.

Scotland's TV Industry drives course development

Glasgow Caledonian University's (GCU) Masters in television fiction writing was developed in response to industry demand for writers specifically trained for the medium of television. The course was designed in partnership between GCU and Shed Media, a leading independent television production company. The intensive, one-year course sees students work closely with GCU staff and the talent at Shed Media. As well as developing academic attributes such as the ability to understand and produce story structure and dialogue, the course coaches students in how to pitch their own ideas to studio executives. Three of last year's graduates have secured contracts to write a series of episodes for a popular TV show: a clear dividend from such a customised and close relationship between industry and academia.



Glasgow Caledonian University graduates

"The Shed Productions team have worked in television drama for nearly two decades and have experienced a real shortage of writers trained to work specifically for the television medium. We want real people to benefit and our industry will flourish as a result." Eileen Gallagher, Shed Productions.

‘...the distinction between creativity and STEMM is a false one.’

Screen Academy Scotland

The Screen Academy Scotland, a Skillset Film and Media Academy based at Edinburgh Napier University in association with the Edinburgh College of Art builds on the University's 25 years of experience in screen skills. Recognised as a UK centre of excellence and accredited by Skillset, it works to strengthen industry input into course design and to address skills needs identified by industry including BBC Scotland and STV, the Skills Council, Scottish Enterprise and the Scottish Government. The Academy has increased the range and quality of graduates entering Scotland's creative economy. It was the first to introduce postgraduate degree programmes in producing and screenwriting and the first to develop a Masters qualification in film-making. It has also developed the first integrated suite of CPD courses in screenwriting from entry-level through to postgraduate certificates.

As the creative economy becomes increasingly digital, businesses have to navigate increasingly complex technologies, supply chains and business models. As a result, the skills needs of the sector have expanded beyond creative input to also include technological and business skills.

Indeed, the creative industries are inherently multidisciplinary industries, combining creative, technological and business expertise to drive innovation in new content, new platforms and new distribution channels. In particular, the close link between creativity and technological skills challenges the notion that science and creativity are somehow polar opposites. Creativity is a key driver of innovation and competitiveness right across all sectors of the economy and maths and physics graduates are in great demand in the computer games industry. This distinction between STEMM and creativity is a false one, and evidence suggests strong and growing demand for multidisciplinary skills (STEMM and creativity) both across the creative sector and beyond. In fact, the future success of the Scottish economy will depend on having real strength in both. This is where higher education has a crucial role to play.

As argued in the *Cox Review of Creativity in Business*, the multidisciplinary skills that are so crucial to the future success of our creative industries, but also the wider economy, are best developed at postgraduate level once individual specialisms are established. While there are examples of interdisciplinary and multidisciplinary



ABOVE: 'Love Cake' A Screen Academy Scotland production, filmed at Edinburgh Napier University. The Academy is accredited by Skillset and is recognised as a UK centre of excellence.

postgraduate education in Scotland, this is still not widespread enough. At undergraduate level, the four-year standard degree programme affords greater opportunity for breadth of study across disciplines. This should be encouraged further, not least because this pedagogic approach is being developed at secondary school level through the Curriculum for Excellence which will produce a new kind of school-leaver that universities are well placed to respond to.

Evidence from *Creating Prosperity* suggests that subject-based higher education funding practices and often rigid institutional structures can be barriers to greater levels of effective multidisciplinary working. These are challenges that universities and their industry partners must work to overcome, and initiatives such as the Research Councils UK Digital Economy Programme (DEP) are helping to support more multidisciplinary activity.

‘...postgraduate education in the creative disciplines in Scotland remains underfunded relative to science-based subjects, even in the face of rising demand’

Multidisciplinary focus at undergraduate level

The University of the Highlands and Islands’ undergraduate degree in Music Performance and Audio Engineering takes a multidisciplinary approach to produce graduates who are not only performers but also entrepreneurs capable of taking a more strategic and business-minded approach to their careers. Students keep music as their central focus but work in cross-disciplinary teams with students in visual arts and media to produce press packs, web content, audio products and business plans to give them the complete skills-set needed for self-promotion. The broad-base to the degree, involving other disciplines, gives graduates better situational awareness, greater flexibility and a roundedness which opens up more variety in career paths. Recent music graduates have gone on to compose for computer games and television as well as following careers as musicians and songwriters.

The creative disciplines are subject to real funding pressures which has resulted from a combination of high unit costs which are not fully reflected in teaching funding levels and a policy prioritisation of STEM subjects which has been notable in England and present, but to a lesser extent in Scotland. Scotland has so far resisted the path chosen by the UK Government to cut teaching funding available for arts and creative disciplines and to only protect teaching funding for STEM subjects from 2012. As argued here and in the UUK report, this is too narrow an approach and one that risks constraining our future competitiveness.

A clear example of this is in postgraduate education. Despite its obvious importance, postgraduate level education in the creative disciplines and performing arts in Scotland has suffered from a historic and disproportionate imbalance in the availability of funded places relative to other disciplines. A 2007 study by EKOS warned that limited provision of postgraduate places in the creative and performing arts, relative to demand, would see Scotland *“incur opportunity costs in terms of the creative innovators that will drive future economic success for Scotland, not just in the directly relevant areas of creative industries but across the economy more widely”* (EKOS, 2007).

There has since been a recent move to redress this imbalance, with Ministerial guidance to the Scottish Funding Council in 2008 identifying this as an area of ‘national importance’. In 2008/09 the Scottish Funding Council made resource available to create 25 new fully-funded places in the creative industries, to be shared amongst five institutions. These places were sustained in 2009/10 with further places made available for dance and the performing arts as well as 40 taught postgraduate places for an intensive Masters programme at the Skillset Academy Network at the University of Abertay Dundee. Although welcome, postgraduate education in the creative disciplines in Scotland remains underfunded relative to science-based subjects, even in the face of rising demand.

Multidisciplinary application of games technology at postgraduate level

The University of Abertay Dundee has taken games technology to inter- and multi-disciplinary research environments to support the visualisation of complex data and models in a range of applications, from cancer treatment pathways to police firearms training and avatars in retail environments. The University has a targeted bridging programme, involving PhD and post doctoral researchers, which feeds back the scientific narrative from this interdisciplinary research to games developers so in turn supports innovation in games development. Games technology and arts graduates work on projects alongside psychologists, mathematicians, biologists, environmental scientists.



ABOVE: The University of the Highlands and Islands produces multi talented graduates through its design of a broad based and multi disciplinary degree in Music Performance and Audio Engineering

‘...the University supports and encourages students to continue to nurture the contacts made whilst on placement as this can sometimes lead to highly-prized internships.’

Employability and entrepreneurship skills are fast growing areas of focus for universities

The highly competitive nature of the creative industries puts the onus onto universities to equip their students and graduates with the skills, the experience, the attributes and in many cases the connections needed to establish themselves successfully in the profession.

Graduates from the creative disciplines are far more likely to be self-employed, freelancing or pursuing a portfolio career than those from non-creative disciplines. A longitudinal study of the career paths of graduates from practice-based art, design, crafts and media subjects found that nearly a quarter of graduates were working on a self-employed or portfolio basis, juggling multiple activities (Creative Graduates, Creative Futures) compared to an average of 10.8 per cent of Scotland’s total working age population that declare themselves self-employed (Office for National Statistics). Self-employment is a major ambition for creative graduates, with four in ten citing the ambition to run their own business.

The distinctive career path pursued by creative graduates requires a specific skills-set in addition to subject-specific creative skills. Universities recognise this and employability and enterprise are growing areas of focus within the sector, embedded into curriculum design with increasing numbers of work-based learning, student placements, ‘live’ projects and career-focused opportunities such as the University of Abertay Dundee’s award-winning workplace simulation model in the form of the Dare to be Digital competition and Screen Academy Scotland’s Screen Futures Project as well as informal networking opportunities for students and recent graduates.

Student Placements at Grays School of Art

Industry placements are an essential part of the BA (Hons) in Fashion Design at Robert Gordon University and the course has been designed with the flexibility needed to accommodate this to give its students a competitive edge upon graduation. The



ABOVE: Stella McCartney, Alexander McQueen and Johnstons of Elgin are just some of the world renowned design houses offering industry placement to BA (Hons) students in fashion design at Gray’s School of Art, Robert Gordon University

twelve-week placement is part of the third-year of the course and the University invests significant time and resource in students in years one and two to ensure the placement is a success. University tutors cultivate experience of ‘live’ projects for students to help to promote confidence and a ‘real-world’ work ethic. Students also receive structured advice from staff in the second-year as to the right creative and professional approach to make to companies when applying for placements. Students also benefit from feedback from final-year students who have just been through the process. Examples of placements recently secured include design houses such as Stella McCartney, Alexander McQueen, Marc Jacobs in New York, Johnstons of Elgin and critically acclaimed designer, Ashley Isham. After the placement has been completed, the University supports and encourages students to continue to nurture the contacts made whilst on placement as this can sometimes lead to highly-prized internships.

Whilst work placements are undoubtedly valuable to students, universities face significant challenges in securing enough placements within creative industries to meet student demand. This makes other collaborative opportunities such as live project work

‘...greater use of high-profile individuals within the industry as ambassadors might be helpful in highlighting the business benefits of work placements for students.’

increasingly important. As well as issues of quantity, the quality of placement can be an issue if sufficient time is not invested in the planning stage and if expectations of the university, student and company are not clearly aligned. While there are good examples of this taking place across the sector, within and beyond the creative disciplines, more should be done to share examples of good practice in the effective planning and management of work placements. Greater use of high profile and well connected individuals within the industry as ambassadors might also be useful in highlighting the business benefits to encourage further take-up.

Similar issues exist with entrepreneurship education, and evidence from *Creating Prosperity* suggests a lack of consistency in the extent and quality of entrepreneurship education in creative disciplines. This is an issue that warrants further attention, perhaps with new standards and meaningful input from creative businesses.

In Scotland, enterprise and entrepreneurialism in universities is supported by the Scottish Institute for Enterprise (SIE) funded by the Scottish Funding Council (SFC). SIE’s objective is to raise the number of students motivated to start a business or social enterprise after graduation. SIE funds two or three student interns on each university campus across Scotland to promote the scheme to students and to serve as a point of contact. Although SIE’s remit is not solely focused on the creative disciplines, two of the six categories in SIE’s annual *New Ideas Competition* relate to the creative industries, including a challenge for *New Ideas* in ‘arts and cultural enterprise’ and ‘service businesses’ which includes web design and product design. The competition offers £1,500 in financial support to help progress a winning business or product idea or social enterprise.

Scottish Institute for Enterprise success for RSAMD graduates

Two former students at the Royal Scottish Academy of Music and Drama (RSAMD) founded their business – the Cairn String Quartet – following their success in the Scottish Institute for Enterprise’s *New Ventures Competition* and with support and encouragement from the SIE Careers and Enterprise Manager at RSAMD. SIE works with every one of Scotland’s universities to ensure that there are two or three Student Interns on each campus, who promote SIE and their own university’s enterprise services. The Interns are managed locally by an Enterprise Manager who is a member of university staff with experience in business advice and incubation, business and enterprise studies. Annemarie McGahon and Fiona McLachlan saw a niche in the market for their mix of modern and classical music. Inspired by the enthusiasm of the Enterprise Manager and equipped with sound advice and information they attracted some start-up funding, marketed themselves successfully and are now running a successful business, the Cairn String Quartet, and performing full-time.

“Vourneen Ryan, at RSAMD works with SIE to encourage entrepreneurship in the Academy. She was fantastic. She showed us the different competitions we could enter, and different sources of funding. It was having someone who had faith in you, and made you feel like you weren’t out on a limb.” Annemarie McGahon and Fiona McLachlan, graduates from RSAMD and SIE *New Ventures Competition* winners.

BELOW: Two enterprising graduates of RSAMD added another string to their bows by forming The Cairn String Quartet following their success in the Scottish Institute for Enterprise’s *New Ventures*.



‘...management practitioners and researchers who see the commercial advantage and business benefits design management can offer their companies.’

Universities can be an important provider of continuing professional development for the creative industries

The university contribution to the skills and training needs of the creative industries is not limited to undergraduate and postgraduates. The creative industries are characterised by a high level of lifelong learning which can be attributed to the highly innovative and fast moving nature of many of the sub-sectors. It is also perhaps a consequence of the competitiveness of the industry, the need for individuals to stay on top of new developments and retain an edge.

Scotland’s universities are major providers of continuing professional development (CPD). In 2007/08 Scotland’s universities provided over £1.3 million worth of CPD to SMEs, £17 million to larger commercial businesses and close to £15 million to individuals (HE-BCI, 2009). However the statistics do not allow disaggregation by industry sector making it impossible to determine what proportion of such activity takes place within the creative industries. Universities UK’s report *Creating Prosperity* found that at a UK level, investment by creative industries in formal CPD was low. Much of the CPD undertaken within the creative industries across the UK is informal and self-taught. *Creating Prosperity* found this to be a consequence of the small nature of creative industries and a lack of resource available to spend on external provision.

Universities need to be sensitive to these factors. Whilst institutions have a proven track record as a major provider of CPD, CPD for the creative industries has to take account of the characteristics common to many professionals in the industry. The fact that professionals may already be juggling several activities as part of a portfolio career means CPD needs to be flexible in where and when it is delivered. It also needs to be affordable given the high proportion of industry professionals that are self-employed and so effectively self-financing their career progression. *Creating Prosperity* also pointed to recent evidence from Skillset which indicated that CPD which led to a recognized, accredited award could improve take-up amongst industry professionals.

Design Management and the University of Dundee.

Since 2007 the Duncan of Jordanstone College of Art and Design (DJCAD) at the University of Dundee has hosted a series of industry-facing design management workshops across Scotland and the UK, building on its research strength in the field. Design management is focused on the business side of design, looking at the processes and strategies needed to encourage innovation and the creation of new products, services and communications. The series of workshops grew out of a successful design management partnership with leading Glasgow-based design agency Graven Images which saw sales increase by 20 per cent following the introduction of new processes and design tools at the company by the University partner. Graven has since increased staff numbers and bucked the economic downturn as a consequence of the partnership. The design management workshops have been attended by over 300 design management practitioners and researchers who see the commercial advantage and business benefits design management can offer their companies. Since 2010 the Arts and Humanities Research Council has made a network research grant available to DJCAD in partnership with the University of the Arts, London to continue the Metamorphosis of Design Management workshops.

The University of Edinburgh CPD in Copyright law

Edinburgh University’ provides an online CPD course to help practitioners in the creative industries understand the basics of intellectual property law, particularly copyright, as it applies to a wide range of creative works and practices. The intention is to help practitioners protect and exploit their own intellectual property and avoid infringing the rights of others. Participants register for the course for a period of two months, and can access the materials and learning activities in their own time and at their own pace. This ‘self-access’ format keeps costs low, making it affordable to freelancers and small businesses. The course was designed against the backdrop of rapid growth in the creative economy. Intellectual property is a key building block in the development, growth and sustainability of the creative industries but research shows that many creative entrepreneurs and SMEs contributing to the creative economy still know very little about intellectual property and its management. This course seeks to address that knowledge gap.

‘Universities should continue to develop multidisciplinary education at both undergraduate and postgraduate levels, bringing together creativity, technology and business.’

Bespoke training for National Library of Scotland

A knowledge transfer partnership between the National Library of Scotland (NLS) and staff and students at Queen Margaret University Edinburgh delivered a programme of bespoke training and professional development in web 2.0 to help improve the library’s accessibility to new users. The partnership tapped into Queen Margaret University’s research expertise in media production and online learning as the Library wanted to use online and social media to engage new, younger and international audiences. The graduate placement, which was supervised by academic staff, helped produced web 2.0 ready content for the John Murray Archive and delivered customised media production training to ensure lasting visual literacy skills amongst NLS staff. The skills learned by staff can be applied to future NLS projects.

Recommendations

Recommendation 1: Scotland needs to avoid the narrow view indicated by recent policy changes in England that clinical, science, technology, engineering & maths (STEMM) subjects represent the exclusive route to economic success. There needs to be recognition in public policy and higher education funding decisions that STEMM and creativity are inextricably linked - successful knowledge economies need strength in both. Consideration needs to be given to how best to support postgraduate research in creative subjects, building Scotland’s capacity to continue to lead in the development of the creative industries.

Recommendation 2: Universities should continue to develop multidisciplinary education at both undergraduate and postgraduate levels, bringing together creativity, technology and business. Changes to the curriculum in schools as a result of Curriculum for Excellence will produce learners who are more familiar with a multidisciplinary approach to learning and this presents real opportunities for pedagogy at undergraduate level.

Recommendation 3: Universities should work to address structural barriers to multidisciplinary working where they exist. There is no single solution to these issues and different institutions will need to find the approach that works best for their circumstances.

Recommendation 4: Universities must continue to develop world-beating talent, but with increasing focus on industry exposure, employability and entrepreneurship. This will mean action on the development of consistent standards for industry experience and entrepreneurship education as well as continuing to engage employers in new models of interaction that deliver mutual benefit.

Recommendation 5: Creative businesses should work in partnership with universities to develop opportunities for industry placements, live briefs and practical experience for students at undergraduate and postgraduate levels.

Recommendation 6: There needs to be sustained recognition from Government, from Skills Development Scotland, the Sector Skills Councils and others that universities have a key role to play in the delivery of skills for Scotland. There needs to be closer partnership working between these bodies and the sector to enhance work done at institutional level and ensure increased engagement, more effective translation of the skills needs of employers and further development of relevant educational provision.

Recommendation 7: The establishment of Creative Scotland creates a new opportunity for the body to take a more strategic and coordinated leadership role across Scotland’s arts, screen and creative industries. Creative Scotland should maximise this opportunity and engage with Scotland’s universities as a significant contributor to Scotland’s creative industries and as a sector with a responsibility to develop and enhance Scotland’s great indigenous talent.

Recommendation 8: There should be ongoing support for the Skillset Media Academies with Skillset and Creative and Cultural Skills playing a co-ordinating role on strategic network development.

Recommendation 9: Universities should continue to develop high-level and affordable CPD for the creative industries through more flexible, tailored courses that meet industry needs.

Research, innovation and regional clusters

Key Findings:

- University research is a crucial source of new ideas and practices that drive innovation in the creative economy
- Universities are adapting new models of knowledge exchange and interaction with the creative economy;
- Universities have a wider role in supporting regional clusters as hubs for innovation

University research is a crucial source of new ideas and practices that drive innovation in the creative economy

The role of university research in the creative industries is multifaceted, reflecting both the nature of university research and the complexity of the creative economy. It varies from blue-sky research which breaks new ground to more applied and close-to-industry research. Much of the research undertaken in the creative disciplines is collaborative and practice-based and feeds in directly to the creative industries. Several of Scotland's universities point to an important role for them in codifying their research so that it can underpin the creative industry sub-sectors, particularly given the rapidly evolving nature of the creative industries. This is exemplified in the **Mackintosh Environmental Architecture Research Unit (MEARU)** at the Glasgow School of Art.

The quality of research undertaken in the creative disciplines in Scotland's universities is outstanding. The 2008 Research Assessment Exercise (RAE) found 52.2 per cent of all creative research in Scotland's universities to be world-leading (4*) or internationally excellent (3*). This performance is more impressive given that the metrics used to make quality judgments in the RAE posed difficulties for assessing some forms of creative research, including practice-based research which occurs most obviously in the creative and performing arts (Universities UK, 2010).

Importantly, research knowledge of relevance and importance to the creative economy comes from a very wide range of disciplines from technology and social sciences to the arts and humanities. Identifying the proportion of overall research funding that goes into creative economy related research is impossible, but it is clear that science continues to dominate the funding landscape. For example, the Arts and Humanities Research Council (AHRC)



ABOVE: The research centre MEARU at the Glasgow School of Art's influence on architectural design and the built environment contributes to improving people's lives through its projects and research interests in low energy architectural design and sustainability.

is by some margin the smallest of all the UK Research Councils, allocating only 4.2 per cent of all Research Council funding that went to universities in 2008/09 (HESA 2008/09). While cross-Council initiatives are on the increase, funding for research in the creative disciplines remains limited.

The Mackintosh Environmental Architecture Research Unit at the Glasgow School of Art

MEARU is a research centre at the Mackintosh School of Architecture, specialising in low energy architectural design and sustainability. It operates at a unique interface between architectural design and science-based research. MEARU's major impact on the creative economy is to influence architectural design and the built environment through its research, consultancy and applied projects. Early work researching passive solar design and low-energy approaches in Scotland has led to its widespread adoption; and current work such as the Zero Carbon Project is at the leading-edge of low-energy housing research. MEARU places a strong emphasis on strategic and applied research that leads to demonstrable



‘Universities are uniquely well placed to bring together expertise across creativity, technology and business to address the challenges and opportunities of a fast moving creative economy.’

impacts and works closely with architects, developers and the construction industry. Demonstrable impacts of MEARU’s research includes: evidence of the viability of low-energy, sustainable technologies, such as integrated renewables and industrialised, pre-fabricated building processes; development of guidance and methodologies for energy assessment; and research into performance and health issues which has impacted on design and housing standards.



There is a strong culture of research collaboration, which has been encouraged and formalised by the concept of research pooling. Established 2004, research pools, have been funded by the SFC as a way of fostering very close collaborative research links across universities, sharing staff, resources, facilities and ideas, to strengthen the critical mass of Scotland’s collective research base and enhance international standing. Of the formal research pools currently in existence, almost all are anchored within in the science and engineering disciplines.



TOP: Fashion designs, Edinburgh College of Art degree show.

Photograph: © John McGregor

MIDDLE & BOTTOM: University of Edinburgh and ECA Circle partnership performance

Although not a research pool in the same sense, the idea behind the Scottish Academy of Fashion (SAF) builds on the same principles. Recently granted the funding needed to establish itself as a new body, the Academy shares the same objective of collaboration to build critical mass. SAF will look to establish Scotland as a global centre for excellence in fashion related learning, primarily at postgraduate level, and commercially relevant research. The SAF is led by the Edinburgh College

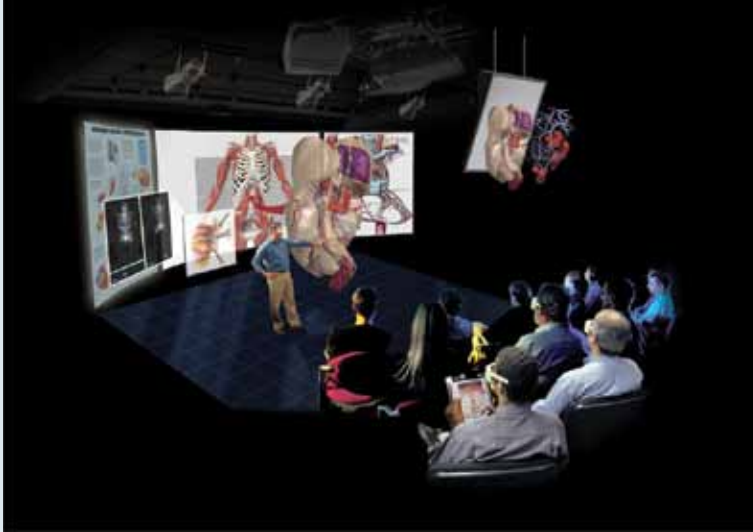
of Art and Heriot Watt University’s School of Textiles and Design in partnership with Robert Gordon University, the Scottish Textile Industry Association and Skillset UK. The Scottish Textiles Industry has welcomed the initiative and its relevance to industry needs.

“Our industry needs the input of new thinking. Bringing together our world-class creative industries with our globally recognised universities, Scotland should be well placed to drive innovation.”
Scottish Textiles Industry.

In line with the multidisciplinary nature of the creative industries, Creating Prosperity found a growing trend towards multidisciplinary research activities within UK universities. Often this is linked to multidisciplinary postgraduate education as well, as discussed in the previous section. This is crucial. Universities are uniquely well placed to bring together expertise across creativity, technology and business to address the challenges and opportunities of a fast moving creative economy. Even the largest companies cannot draw upon such a wealth of knowledge and expertise.

The RCUK Digital Economy Programme (DEP) is a cross-Research Council funding programme that supports multidisciplinary research hubs and centres of doctoral training in areas relating to the digital economy. For example, dot.rural at the University of Aberdeen is exploring the contribution that digital technologies can make to enhancing key services, generating business opportunities, boosting quality of life and promoting the economic, social and environmental sustainability of rural areas across the UK. The hub brings together researchers from a range of disciplines including computing science, communication engineering, human geography, sociology, environmental science, medicine and transport.

Beyond the specific focus of the DEP, universities are increasingly aware of the value of multidisciplinary research and knowledge exchange activity and there are strong examples of this, with tangible benefits, across the sector in Scotland including GSA’s work with the Scottish Medical Visualisation Network, the University of Abertay Dundee’s Human Interactive Virtual Environment (HIVE) Lab and CIRCLE, a blue-skies research partnership between the Edinburgh College of Art and the University of Edinburgh which looks at interactive systems and draws on research staff in the visual and performing arts, architecture, the humanities, the physical and social sciences.



ABOVE: A multidisciplinary approach taken by the Glasgow School of Art's Digital Design studio. The Scottish Medical Visualisation Network's research has developed a 3D version of the Human body to support clinical learning and teaching

Scottish Medical Visualisation Network.

The Digital Design Studio at the Glasgow School of Art established the medical visualisation network in 2007 with partners including the Royal College of Surgeons in Edinburgh. The Network brings together multidisciplinary teams of medical practitioners, medical educators, and academics with technical, visualisation and industrial experts to identify key areas where 3D visualisation and interaction will support medical learning and teaching, surgical planning and rehearsal. Research has focused on the development of new scanning and interactive techniques to dynamically visualise and interact with a highly accurate 3D version of the Human Body in real-time. The DDS's research extends to 3D visualisation, 3D sound, haptics (touch) and gesture-based interaction all of which have commercial applications in fields as diverse as medicine, architecture, automotive industry, defence, education, environment, games and entertainment, heritage and ship design. In the field of heritage, DDS has recently established a joint venture with Historic Scotland to form the Centre for Digital Documentation and Visualisation, currently delivering the Scottish Government's Scottish Ten project: highly accurate, interactive 3D digital models of ten world heritage sites.

'...52.2 per cent of all creative research in Scotland's universities is world-leading or internationally excellent.'

Tales of multidisciplinary working - TOTeM

The Edinburgh College of Art is the lead institution in a research project which brings together five universities across the UK including the University of Dundee and combines research in digital design, business, architecture, anthropology and computer science. TOTeM - Tales Of Things – explores the emerging use of 'tagging technologies' to track physical objects and preserve the social history of objects by recording people's memories of them in the form of video, text or audio. The project is funded by the EPSRC as part of the Digital Economy Programme. The research has already had a number of commercial and cultural applications including a partnership with Oxfam as part of its Future Everything digital arts festival. This gave people the opportunity to tag the items they donated to Oxfam with their personal stories which customers could then listen to. The project saw sales shoot up by 53 per cent.

As identified in Creating Prosperity, structuring and delivering multidisciplinary research is not without challenges. The sometimes rigid faculty structures within universities and the subject-based nature of research funding are both barriers, and although there is growing interest and recognition of multidisciplinary research, the metrics used for assessing research and knowledge exchange activities can be problematic.

More specifically, the collaborative and iterative nature of the interaction between creative businesses and universities does not fit well with metrics developed for science-based research and commercialisation activities. Collaborative, people-based interactions that work in the creative economy do not always translate well into academic publications. There is growing focus on practice-based research in the creative and performing arts, and while these outputs are being recognised increasingly in the Research Assessment Exercise (RAE) and its successor the Research Excellence Framework (REF), challenges remain. The REF has a strong focus on the impact of research, and this can be difficult to demonstrate in areas of the creative disciplines, particularly compared to science and technology where commercial application makes this more straight forward. Encouragingly, the REF Expert Panels reporting on the outcomes of the impact pilot work have recommended a broader definition of impacts, particularly for arts and humanities subjects.

University academics are also well placed to contribute to the creative industries through their research in other ways, whether it is through the application of knowledge in relevant policy development or by enhancing the understanding of how creative industries add value to Scotland's economy. The University of Dundee's work into the viability of Scotland's craft industry and the University of Stirling's research into the socio-economic impact of macrobert are good examples.

Craft industry evaluation by the University of Dundee

Academics at the University of Dundee identified a cultural and economic need for change within Scotland's Craft industry following a thorough research project into this sub-sector. The research, funded by the AHRC, was driven by the need to improve the economic performance of Scotland's craft industries and the perceived need to reposition the disciplines of craft and design. The research team engaged with both public and private sectors as part of their study and the research outputs have received buy-in from major stakeholders. Key amongst them is a collective strategy for promoting Scottish crafts, a new bursary programme to support professional practitioners who are at the mid-point of their careers and who need to raise the level of innovation in their craft practice and the idea for a **Craft Festival Scotland** which was held for the first time in 2010.

The economic impact of the arts

The Management School at the University of Stirling is working in a knowledge transfer partnership (KTP) with macrobert to evaluate and communicate the venue's impact in socio-economic terms. This is increasingly important given continued pressures on public funding and a semantic shift on the part of some funding bodies from 'supporting' to 'investing' in the arts. As a cultural hub and performing arts venue, macrobert works with a range of artists and companies to offer a multi-arts programme. The KTP will work to assess, validate and present the benefits of this activity in a way that resonates with funders and demonstrates return on investment. The KTP is part of the University of Stirling's wider *Creative Work and Enterprise* agenda which looks to reconcile art and creativity with business and management with the objective of improved vitality and competitiveness. The outputs of this work will be of interest to other creative industries and enterprises across Scotland.



TOP: MacRobert Centre

MIDDLE & BOTTOM: A pantomime dame performs at the Macrobert. A research project led by the University of Stirling will assess the socio-economic impact of the macrobert centre, at the heart of the University's campus. Photographs: © Douglas McBride

RIGHT: Beatles Fabric, The Centre for Advanced Textiles at Glasgow School of Art acts as a link between industry and academia in the provision of facilities and services.

‘Scotland’s universities have adopted a range of linear and non-linear methods of knowledge exchange when working with creative industries.’

Universities are adapting new models of knowledge exchange and interaction with the creative economy

Knowledge exchange, the means of translating the knowledge and expertise in a university into a business or end-user, is central to the mission of all of Scotland’s 20 higher education institutions. The micro-nature of Scottish enterprises within the creative industries - 97 per cent of businesses have less than 50 employees - poses potential supply and demand-side challenges for knowledge exchange. However, Universities UK’s report *Creating Prosperity* found the innovation process in the creative industries to be more open, people-based and collaborative than the traditional linear models of innovation found in science. The evidence for Scotland bears this out and finds that Scotland’s universities have adopted a range of linear and non-linear methods of knowledge exchange when working with creative industries.

More conventional or linear forms of knowledge exchange for creative industries still run alongside open and collaborative approaches. Scotland has arguably led the way in innovative approaches to knowledge exchange between universities and businesses. The Knowledge Transfer Grant, distributed by the Scottish Funding Council since 2001/02 as a reliable, formulaic grant is widely recognised within the sector as a highly successful funding model which has helped institutions build and maintain the necessary infrastructure to reposition knowledge exchange as a central part of the university mission. At the time of writing, the level of funding available for the Knowledge Transfer Grant in academic year 2011/12 was still undetermined by the Scottish Funding Council although it sits in a larger grant stream, the Horizon Fund, which is facing cuts in the order of 24.1 per cent (SFC, 2010).

Our research found there to be multiple and varied paths of engagement between universities and business in place as well as more conventional knowledge exchange routes such as knowledge transfer partnerships, spin-outs and start-ups. Examples of non-linear knowledge exchange include:

- the partnership between the Glasgow School of Art and the Institute of Directors in embedding cultures of innovation in Scottish companies using design innovation tools and techniques;

- the co-location of facilities between university and industry, which sometimes sees the university host or ‘incubate’ fledgling companies such as LAUNCH.ed at the University of Edinburgh which has helped to establish 17 new businesses and create 25 jobs in the creative industries.
- Similarly, the University of the West of Scotland and the Digital Design Studio of the Glasgow School of Art established the Scottish Centre for Enabling Technologies to provide advice, support and access to technologies to creative SMEs. Based in Glasgow’s Digital Media Quarter, the Centre provides a space for informal interaction and collaboration between researchers and creative SMEs and has helped increase in turnover in its partner SMEs by almost £9 million and created and safeguarded of over 300 jobs.

In some cases, the university itself might be hosted by creative industries as is the case with the University of the West of Scotland acting as a ‘cultural tenant’ of Film City and the Centre for Contemporary Arts in Glasgow which has led to close university-industry connections. Provision of facilities and services also helps to build links between industry and academia. The team at the Centre for Advanced Textiles at the Glasgow School of Art provide access to equipment that would otherwise be unavailable to small, independent design companies as well as offering the unparalleled experience of GSA staff in the design, preparation, production and finishing of digitally printed textiles. This helps cultivate strong links with emerging designers.

A diverse range of routes, which may often involve little or no initial commitment from the industry side, help to slowly build firm relationships which can often lead to more meaningful long-term and profitable relationships. There needs to be recognition from policy-makers that in the creative industries, as with other sectors, not all knowledge exchange activity will generate immediate significant economic returns in the wider economy but that slow-burners may deliver in the long-term if given support and patience.

There is also a need for sustained effort both to encourage creative businesses to engage with the expertise in Scottish universities and to find viable means for universities to collaborate with a diverse and fragmented base of micro-businesses.



'Interface is unique as a one-stop-shop matching business needs to expertise in universities.'

Scotland is unique in regard to knowledge exchange in so far as it is home to **Interface**, the knowledge connection for business, which works as a free one-stop-shop for match-making business needs with the research and innovation expertise in universities. Interface works across all 20 higher education institutions and research institutes in Scotland and across all industry sectors and is aimed primarily at SMEs. Interface is able to connect businesses to the right kind of knowledge service from the right university whether it's a collaborative research project, consultancy advice, an industrial placement or knowledge transfer partnership or small-scale funding support for exploratory projects. Though focused across all sectors of the Scottish economy, Interface is keen to act on recent recommendations that the creative industries should be a priority for the organisation's future engagement (EKOS, 2010). This focus could be even more significant given funding pressures within Scottish Enterprise has meant a re-prioritisation of much of its activity on companies of scale – which is not a natural fit with many companies in the creative industries.

Interface has successfully initiated over 330 collaborative partnerships between universities and business. A recent, independent evaluation of Interface, after five years in operation through support from the Scottish Funding Council, found the model for university-business interaction to be highly effective and greatly valued by those who had used its services. More than half of clients have launched a new product or service as a result of the academic collaboration. The evaluation also found that 53 per cent of Interface's clients surveyed were micro-businesses, employing nine employees or fewer, which demonstrates Interface's ability to engage successfully with the size of business most commonly found in the creative industries. There has been interest in Interface's service from creative industry sub-sectors such as digital media, software and design. And an analysis by sector, of the take up of innovation vouchers through Interface over the last couple of years shows a promising, though fluctuating, interest from creative companies. In 2008/09 creative industries accounted for 25 per cent of all innovation vouchers allocated by Interface. In 2009/10 this figure was 16 per cent. However, on balance the demand for knowledge exchange from universities has typically been much lower from businesses in the creative industries than from companies working in science-based sectors. Interface is keen to stimulate further demand from this sector following the evaluation report's recommendation that the creative industries should be a priority target for future engagement.



ABOVE: Luxury accessories company, Begg Scotland, and the School of Textiles and Design at Heriot-Watt University benefited from the matchmaking services of Interface which led to funding support for a joint project for a new product range.

Interface match-making service – Heriot-Watt University and Begg Scotland.

Begg Scotland, a luxury accessories company specialising in cashmere, approached Interface looking for an academic partner that would be able to provide new innovations in colour and design for a new product range. The company's objective is to increase sales to key European fashion houses including Hermes and Louis Vuitton. Interface facilitated introductions between Begg Scotland and the Scottish Academy of Fashion which led to the scoping of a joint project between the company and **Heriot-Watt University's School of Textiles and Design** in the Scottish Borders. The project was awarded funding support in the form of an innovation voucher which has enabled the project partners to increase capacity, build on design innovation ideas and advance fabric prototypes towards the new collection.

‘...this level of funding was sufficient to catalyse the engagement which saw the company draw on expertise in the University’s Department of Psychology and Faculty of Education to produce an educational iPhone application.’

Financial support to encourage university-business interactions is vital, particularly within the creative industries where the capacity for companies to invest in research is diminished due to their size. Scottish SME, Me and the Giants which specialises in games-based learning tools for young children, was able to take forward a knowledge exchange project with the University of Glasgow because of the availability of funding in the form of a First Step Award of £5,000. This level of funding was sufficient to catalyse the engagement which saw the company draw on expertise in the University’s Department of Psychology and Faculty of Education to produce an educational iPhone application to meet a gap in the ‘apps’ market. Funding sources like the First Step Award, funded by the University’s Innovation Network, are necessary to overcome the misconception that exists amongst many creative industries and SMEs more widely, that drawing on university expertise is prohibitively expensive.

Prototyping ‘pipeline’ for computer games at the University of Abertay Dundee

In 2010 the University of Abertay Dundee launched a multi-million pound intellectual property prototyping ‘pipeline’ for the computer games industry which is expected to create and support fledgling companies and lead to the creation of hundreds of new jobs in the computer games and digital media sectors. The University, which is recognised as a centre of excellence for computer games technology, will work with fledgling businesses to help them develop their intellectual property into fully-working prototype games that can be showcased to potential investors. The project is expected to attract private sector investment and aims to create 30 new companies, provide important support to another 80 existing smaller businesses, and create up to 400 new jobs. An additional 300 students, graduates and professionals will have their skills developed through working on successful projects. The project is funded by the ERDF and UK Government as well as the University and builds on the major recent investment by the Scottish Government in establishing the Centre for Excellence in Computer Games Education as a UK first.

RIGHT: Still image from BAFTA award-winning SHRUNK, a former winner of the University of Abertay Dundee’s Dare to be Digital competition

Pre-Incubation scheme at the University of Edinburgh

The School of Arts, Culture and the Environment (ACE) was an active participant in the University of Edinburgh’s Pre-Incubator Scheme, EPIS, which hosted entrepreneurs as ‘fellows’ within relevant academic departments. EPIS, funded by Scottish Enterprise until mid-2010, made a small amount of funding available for the entrepreneur who was hosted by the University and offered support from academics to turn an idea into a business. The academic partner also received a small amount of funding to support the partnership. The entrepreneur benefitted from the research expertise located in the department and the academic hosts came to better understand the issues confronting the entrepreneur. ACE played host to 14 EPIS fellows during the scheme’s duration and companies including Dunedin Arts, a 3D digital animation studio and Winterwell, which specialises in augmented reality gaming, have been launched as a result. Both companies are currently operating as micro-businesses but their turnover is predicted to quadruple over the next three years. The University is currently reviewing whether it is able to self-fund the scheme’s continuation following the withdrawal of funding. A survey of all EPIS alumni found that around 30 per cent of EPIS companies’ sales were within Scotland, 40 per cent within the rest of the UK and another 30 per cent of sales were international.





ABOVE: Collaboration between Scotland and Russia has resulted in economic, social and educational benefits for the cities of Glasgow and Rostov and to the wider arts community and stakeholders

A wide role in supporting regional clusters as hubs for innovation

Universities have a powerful role to play as regional hubs for the creative industries and in stimulating and supporting the development of regional creative clusters. This is partly due to the breadth of offering that universities are able to make; effectively providing their own cluster of different elements including a high concentration of relevant skills, in both staff and graduates, and research and development all in one place. Universities also have the invaluable ability to span local, national and international forums which can be a very powerful facilitating role. RSAMD's Celtic Cossack Connections project is a good example of this as is the instrumental role the University of Dundee and the University of Abertay Dundee have played in bringing the **V&A** to Scotland.

The thriving clusters of creative industries in Glasgow, Edinburgh and Dundee are inextricably linked to the universities there. In many cases, the emergence and growth of these creative clusters has been highly dependent on close links to, and financial and in-kind support lent by universities. The University of Abertay Dundee's critical role in the emergence and continued vibrancy of computer games industry in Dundee is a case in point as is Glasgow School of Art's role in establishing the City as a major European centre for the visual arts, a city which has, since 2005 produced 27 per cent of shortlisted artists and three winners of the UK's most prestigious Turner Prize. Importantly, GSA is the centre of a growing informal network of arts practitioners that maintain strong professional and personal links to the School.

Place matters in the creative industries, and the very permanence of universities affords them the potential to be strong anchors for local and regional clusters. Perhaps the clearest example of this in practice is the role that the University of Abertay Dundee has played in supporting the city's thriving computer games industry. The University operates an integrated suite of research, employability, skills and entrepreneurship initiatives supported by strong industry relationships and an international reputation. This has brought benefits both to the university but also to the digital

media sector in the city region, and the university has consistently been at the centre of wider public/private partnerships that have helped to strengthen the cluster.

This last point is important. A supportive public sector infrastructure played an important role in enabling the University of Abertay Dundee to become such an important part of the Dundee games cluster, and it is crucial that the role that universities can play in this respect is properly recognised and supported.

In a different sense, universities often serve as creative industries in their own right – as significant producers of the arts and music. The RSAMD is a significant arts venue on the Glasgow scene, selling over 47,000 tickets to over 400 performances last year alone. In the north of Scotland, the University of Aberdeen, Robert Gordon University and the University of the Highlands and Islands, play an important role as both a provider and as a locus for the performing arts in this region, given that no professional performing arts companies are based in Aberdeenshire. Events such as the **sound** festival of new music and the annual international **Word** writer's festival, which attracted over 11,000 visitors in 2010, are entirely the product of the University of Aberdeen.

Celtic Cossack Connections at RSAMD.

Celtic Cossack Connections was a music and education project spearheaded by the RSAMD in partnership with the Rostov State Rakhmaninov Academy in Russia but also involving the Russian Cultural Centre in Glasgow, Scottish Opera and the Rostov State Musical Theatre. The partnership has generated economic, social and educational benefits for Glasgow and Rostov including: sell-out, full-scale operatic productions in Scotland and Russia played to a total audience of over 10,000; skills development and enhanced employability for the students that participated; and a successful model for professional/conservatoire collaboration as well as the wider objective to widen interest and access to the arts to a range of stakeholders and promote deeper cultural understanding between the two countries. The project attracted £200,000 of funding from the European Commission. *“Since the twinning of the two cities, Glasgow and Rostov, in a number of bilateral contacts between institutions of our two cities, the relations between the Rostov State Rakhmaninov Conservatoire (Academy) and the Royal Scottish Academy of Music and Drama stand out by their scale, by using new forms of cultural connections.”* Mikhail Chernyshov , Rostov-on-Don Mayor

Recommendations: research and knowledge exchange

Recommendation 10: The Scottish Government should continue to recognise the critical importance of the creative industries to the future competitiveness of Scotland's economy. It now needs to recognise the key role universities play in supporting the growth of this sector. This means according the creative industries greater policy emphasis in line with their economic importance, and investing to ensure that Scotland maintains its strong global position in these industries. This investment should be prioritised through a clearly articulated and aligned strategy.

Recommendation 11: The UK Government and the UK Research Councils should ensure adequate funding for research in disciplines relevant to the creative industries. This should include social science research into the nature of the creative economy.

Recommendation 12: Research assessment mechanisms should also ensure that the outputs and impacts of creative industries-related research (including practice-based research) are fully recognised and rewarded. It is therefore encouraging that the expert panels working on the pilot impact exercise for the Research Excellence Framework (the successor to the RAE) have recommended that a broader definition of 'impact' be adopted by HEFCE, SFC & HEFCW. The expert panel has also advised that the initial list of impacts developed by HEFCE needs further work, especially for the arts and humanities.

Recommendation 13: There should be increased investment into multidisciplinary research projects across the three main Research Councils with interests in the creative economy – Arts & Humanities Research Council (AHRC), Economic & Social Research Council (ESRC) and Engineering & Physical Sciences Research Council (EPSRC). In particular, AHRC should be resourced to participate fully in new cross-council initiatives.

Recommendation 14: Funding to support university-business interactions, in particular the SFC's knowledge exchange grant and funding for Interface, has been critical in supporting knowledge exchange between universities and the creative industries. There are real pressures on university funding for 2011/12 and beyond however, the Scottish Government and the SFC should ensure ongoing support for these activities.

Recommendation 15: Universities should structure new ways of interacting with the disparate sectors that make up the creative industries and the specific challenges posed by micro-businesses which constitute a fair share of the creative industries. The nature and the speed of interactions are particular areas for concentration. The sector should do more to share good practice and lessons-learned. The Government and other bodies should be live to this in their policy development and more business leaders are needed to serve as vocal ambassadors.

Recommendation 16: Encouragement and support for university-business interaction should continue to be a priority issue for Scotland's economic development agencies including Scottish Enterprise, Highlands and Islands Enterprise and Business Gateway and local authorities working at a regional and local level.

Recommendation 17: Intermediary bodies such as trade associations and industry groups such as Business Gateway, Scottish Chambers of Commerce, the Federation of Small Businesses in Scotland and others should work to raise awareness of the benefits to industry of working with higher education across all forms of knowledge exchange activity.

Recommendation 18: As the knowledge connection for business in Scotland, with a proven track record of success, Interface should look to act on the recommendation, within its recent evaluation report, that companies in the creative industries should be a strategic priority going forward.

Recommendation 19: There is a role for industry to work with universities and public sector partners to build regional creative industries clusters and support innovation. Although higher education is a powerful and natural partner for this, the support of industry and the relevant public bodies (for example Scottish Enterprise and Highlands & Islands Enterprise) is essential.

Conclusions

There can be no doubt that universities play a strong supporting role in the success of Scotland's creative industries. The links between the two sectors are multiple and varied as demonstrated in these pages. Scotland's creative industries and its universities are world-leading and both set their ambitions and measures of success at nothing less than at global level. Despite this considerable success, both sectors are likely to face their own sets of challenges in the years to come and, with this in mind, it is timely to take stock and assess where more can be done to reinforce and strengthen the relationship between universities and creative industries, and to seek support where necessary from Government and other public bodies, to ensure that creative industries and universities alike continue to realise their international ambitions.

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